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COMMONWEALTH OF PENNSYLVANIA.

SECOND ANNUAL REPORT

OF THE

BUREAU OF STATISTICS

OF

RECEIVED  
OCT 18 1874

PENNSYLVANIA,

FOR THE YEARS 1873-74.

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B. F. MEYERS, STATE PRINTER.

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PENNSYLVANIA

FOR THE YEAR 1909

HARRISBURG

STATE PRINTING OFFICE

1910

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# REPORT.

## ASSESSMENT RETURNS FOR 1874.

### PERCENTAGE OF INCREASE.

Our first table, prepared from county commissioners' returns, shows how largely the assessments of 1874 have increased over the same, for 1873. The aggregate increase for the State is \$598,796,438, or a fraction over fifty per cent. One-third the counties have partaken of this spirit of increase, but especially is this noticeable in Crawford, having increased hers threefold; Northampton, fourfold; Warren, fivefold and Allegheny, sixfold, their former assessments. But these four counties also demonstrate that bringing their valuation up to a cash standard, need not add to their county taxes.

	Assessed value.	County tax.
Allegheny, 1873 .....	\$44,313,087	\$445,452 21
Allegheny, 1874 .....	282,711,269	424,066 90
Crawford, 1873 .....	8,867,811	123,628 88
Crawford, 1874 .....	23,102,218	115,511 09
Northampton, 1873 .....	13,663,960	114,408 90
Northampton, 1874 .....	48,239,330	77,358 94
Warren, 1873 .....	2,158,080	21,065 56
Warren, 1874 .....	10,421,662	23,205 67

In Allegheny, one and one-half mills was the rate of county tax in 1874, against ten mills in 1873, and so in like manner in all the twenty-two counties in which this increase took place. In some of these an increase of county tax took place, but so did it in other counties where no increase was made in the assessed valuation. Last year the aggregate valuation was, in my judgment, below one-third of the true value. This year the aggregate a little exceeds one-half the true value.

### RELATIVE VALUE OF REAL AND PERSONAL PROPERTY.

I suppose that every one admits that in the sense of past legislation and the requirements of the new Constitution personal property should pay an equal percentage upon its value to real estate. It occupies much more



of the time of your civil and criminal courts in extending to it protection than does the same value of real estate. Our official assessment will show that not ten per cent. of our personal property can be found upon our assessors' books. The New York State assessors, in their last report, say that not more than fifteen per cent. of theirs is so found. I annex the official assessments of our two adjacent States and our own to demonstrate this:

	Real estate.	Personal.	Ratio.
Pennsylvania.....	\$1,610,333,182	\$150,550,485	Not 10 per ct.
New York.....	1,692,523,071	437,102,215	25 per ct.
Ohio.....	1,041,763,931	525,510,707	50 per ct.

Now, I have no doubt that if all the personal property of the State was upon the assessors' books, and fairly valued, it would reach ten times the amount or \$1,500,000,000. New York allows her citizens to deduct their indebtedness from their schedule of personal property, and gets, in the language of their assessors, not over fifteen per cent. Ohio requires her returns to be made under oath, and hence she is twenty-five per cent. ahead of New York and forty per cent. ahead of Pennsylvania. The only redeeming feature is that our State collects her entire State tax from personal property, or this would be so enormous an evil that it would not be tolerated for a single year. If our personal estate was upon our assessors' books, even as fully as Ohio has hers, it would add to our taxable property \$654,000,000, which at two per cent. would yield \$13,000,000 annual revenue, just about double the amount of the State tax. I do not believe it is possible, with mankind as they are, to reach an exactly equitable system of taxation; but if you could throw the whole real, personal and corporate wealth of our State into what the English law styles "hotchpotch," and have our entire State, county, city, borough and township taxation, as it exists to-day, paid from a common fund, real estate would be relieved of five millions annually, which would be transferred to personal and corporate wealth. I go out of my province somewhat to put upon record my convictions on this point, because I have had the opposite opinion thrust in my face a thousand times.

#### OF PROPERTY EXEMPT FROM TAXATION.

I was required by an act of the last Legislature to report the probable amount of property exempted from the payment of taxes. Every county made return, but only fourteen out of the sixty-six counties reported that their assessors' returns shows anything about exempted property; and most of those say that only a few districts returned the value of such exempted property. The returns of at most half a dozen of counties can be

relied upon as approximations to accuracy in this respect. Dauphin county shows the heaviest percentage, sixteen per cent., of exempted real estate. Take off, however, one million for the State Capital and public grounds, and the State hospital, and that will leave her exemptions about ten per cent. on her assessments.

This is nearly the same in Philadelphia, and I presume if accurate returns were had from the whole State they would show that about ten per cent. has heretofore been exempt from all taxation. What is to be the policy in the future, under the requirements of the new Constitution, is for the Legislature to decide. Further returns I could not procure, because the value of the exempted property has not heretofore been reported to the county commissioners.

#### THE TRUE VALUATION OF REAL AND PERSONAL PROPERTY.

I have added a second table wherein is contained my estimate of the true value of real and personal property of the State. How they are to reach this cash value, the legal standard in assessing property, is a knotty question for assessors and county commissioners. In ordinarily prosperous times, I suppose, real estate can be sold at twenty per cent. higher prices, payable in installments, say one-fifth each year, than it can for all cash, payable at the time of sale. If I am right then twenty per cent. below time sales would be the true valuation for assessors and county commissioners. In the past history of our State we have probably all known of actual sales of real estate at five and ten times the assessed valuation. No intelligent man at all familiar with the different counties, can doubt that even our present assessments in many counties are largely below the selling prices. Three of these counties, to wit: Allegheny, Northampton and Warren have, by this last triennial assessment, been brought up to their true value. Some twelve others in my table are only a small fraction below their true value. The multiple I have used to bring the others up to this value includes every figure from 2 to 6, and in one county only, Wayne, 8 is my multiplier. This is a matter upon which men differ so much, that all I ask you to believe is that I endeavored to be impartial.

In my second table I have two columns, one testing the present assessment and the other my own estimate by the population of each county. I admit this is only an approximate mode. I have not attempted to equalize, because I know that the cities and old settled counties contain more wealth *per capita* than the younger counties. But Wayne county giving only \$54 *per capita*, cannot be up to her true value compared with others that give \$1,000. The elements in the table are common sense elements, and every one can make up his own judgment for himself. The law of the State and the oath of office clearly demands property to be assessed at its true cash



value. Fully one-half the State in value has come up to or within a fraction of this cash value, and the balance can no longer have any excuse for continuing the old practice, which disregards the law and violates the oath of office.

In regard to personal property, there is not a county in the State that comes anywhere near conforming to the law. Our laws in regard to the subjects of taxation are not essentially different from the laws of Ohio. The new Constitution emphasises the obligation of former laws in this respect. If our laws were executed as the Ohio laws are, instead of \$150,000,000, we would have over \$800,000,000 of personal property upon the assessors' books, and this too of the active capital which pays its owners six, eight, ten and twelve per cent. annually upon its use. Our Legislature, satisfied from past experience of the impossibility of reaching corporate wealth through the ordinary assessors' books, have taxed this species of property in another form and hold the corporation officers responsible for paying its taxes into the State treasury. In this respect we are ahead of most of the other States. But the requirements of the new Constitution have come into play, and a prolonged contest is likely to ensue about the right to tax in this mode. Then we have five hundred millions of actual capital, such as money at interest, the capital employed by our merchants, manufacturers, mining operators and business men that now nearly escapes taxation. There will be a desperate effort to throw nearly all taxation upon real estate; corporate wealth and active capital will unite to invoke the provisions of the new Constitution to set aside existing laws and the result if successful must be to throw the entire burden upon the real estate of the Commonwealth.

I estimate the taxation of Pennsylvania in 1874, as follows:

County tax, as per returns.....	\$16,804,830 98
School tax, Philadelphia omitted.....	7,500,000 00
Road tax.....do.....	6,500,000 00
Poor tax.....do.....	3,000,000 00
City and borough, extra..do.....	3,000,000 00
(Philadelphia return includes all kind of taxes,)	
State tax.....	6,500,000 00
	<hr/>
	43,304,830 98
Share of this paid by personal property, \$3,304,830 98	
State tax.....	6,500,000 00
	<hr/>
	9,804,830 98
Real estate pays.. . . . .	<hr/>
	33,500,000 00

THOMAS J. BIGHAM,

*Commissioner of Statistics, Pa.*

OCTOBER 6, 1874.

# TRIENNIAL ASSESSMENTS, 1874.

5

COUNTY ASSESSMENTS, indebtedness and taxes of each county, also property heretofore exempted from taxation

COUNTIES.	I. Total assessed value of real and person- al estate. 1873.	II. Asses'd value of real es- tate as per returns. 1874.	III. Asses'd value of personal estate as per returns. 1874.	IV. Total assessed value of real and person- al estate. 1874.	V. Exempt'ns so far as shown by co. com's books. 1874.	VI. Amount of in- debtedness as per re- turns. 1874.	VII. County taxes assessed as per returns. 1874.
Adams	\$5,737,395	\$10,211,363	\$1,156,680	\$11,368,043		\$2,329,221 73	\$34,698 05
Allegheny	44,315,087	277,192,713	5,518,556	282,711,269	\$105,000	192,000 00	424,066 90
Armstrong	13,748,113	9,011,670	1,091,205	10,102,875			77,122 86
Beaver	4,905,032	4,560,924	388,572	4,949,496			45,817 00
Bedford	3,044,783	3,867,534	576,687	4,444,221		14,495 00	49,875 68
Berks	20,657,873	19,078,481	2,315,529	21,394,010		75,000 00	106,970 05
Blair	6,487,817	6,987,575	936,860	7,924,435		14,000 00	48,745 55
Bradford	7,628,770	6,877,735	923,953	7,801,688			31,206 73
Bucks	18,494,101	16,417,765	4,980,891	21,398,656			114,955 88
Butler	6,984,136	7,320,113	659,424	7,988,537	100,000	25,000 00	82,409 89
Cambria	5,164,084	4,401,210	542,426	4,943,636		27,800 00	44,012 10
Cameron	833,418	896,516	109,653	1,006,169		10,060 35	10,061 69
Carbon	2,723,887	3,440,575	919,345	4,359,920		61,760 00	56,509 12
Centre	4,412,546	10,585,057	1,238,335	11,823,392			35,410 77
Chester	62,310,273	51,284,718	6,880,033	58,164,751	1,250,000	528,901 00	142,484 81
Clarion	2,631,130	3,420,437	224,596	3,645,033		70,000 00	58,318 67
Clearfield	6,992,246	7,446,392	973,659	8,420,051	276,080	75,000 00	42,100 25
Cleintown	3,050,065	4,686,590	736,413	5,423,003		83,000 00	46,865 90
Columbia	5,020,837	4,751,586	957,915	5,709,501			22,838 00
Crawford	16,482,841	21,101,104	2,001,114	23,102,218		359,036 67	115,511 09
Cumberland	6,632,646	11,791,267	1,182,904	12,974,171		4,734 21	68,925 88
Dauphin	15,749,405	15,377,611	696,468	16,074,079	2,579,226	215,634 02	172,932 99
Delaware	32,752,000	31,656,496	6,045,962	37,702,458		485,778 62	121,098 03
Elk	1,776,933	2,176,937	195,302	2,372,239		11,051 00	18,993 72
Erie	38,816,581	37,931,593	2,852,986	40,784,579		16,695 00	142,775 53
Fayette	13,545,243	13,595,615	996,828	14,592,443		5,780 00	50,771 76
Forest	13,744,713	1,555,575	52,680	1,608,255		24,791 39	16,082 55
Franklin	13,589,828	12,484,820	1,699,736	14,184,556		19,761 00	69,857 41
Fulton	983,247	972,763	145,000	1,117,763			8,870 53
Greene	8,493,198	6,697,250	526,143	7,223,393			32,774 51
Huntingdon	6,158,247	4,766,504	539,078	5,305,582			44,036 01
Indiana	3,820,225	7,875,450	524,259	8,399,709		159,789 37	43,791 95
Jefferson	2,245,782	2,220,270	220,318	2,440,588	28,326	95,000 00	37,608 79
Juniata	1,308,914	2,321,311	169,385	2,490,696		34,000 00	24,903 95



## COUNTY ASSESSMENTS, &amp;c.—CONTINUED.

COUNTIES.	I. Total assessed value of real and person- al estate. 1873.	II. Asses'd value of real es- tate as per returns. 1874.	III. Asses'd value of personal estate as per returns. 1874.	IV. Total assessed value of real and person- al estate. 1874.	V. Exempt'ns so far as shown by co. com's books. 1874.	VI. Amount of in- debtedness as per re- turns. 1874.	VII. County taxes assessed as per returns. 1874.
Lancaster	\$42,559,496	\$88,694,492	\$14,333,628	\$103,028,120	.....	\$173,722 60	\$245,483 30
Lawrence	4,774,378	7,494,361	1,227,023	8,721,394	.....	186,822 27	101,450 85
Lebanon	11,781,114	9,892,135	2,215,556	12,107,691	.....	17,312 60	58,743 08
Lehigh	10,362,699	37,789,368	1,955,541	39,744,909	.....	250,586 31	122,202 54
Luzerne	10,971,927	22,870,258	4,023,853	26,894,111	.....	85,000 00	139,152 88
Lycoung	6,548,885	6,318,497	473,388	6,791,885	.....	130,307 13	67,918 85
McKean	689,675	1,306,939	104,286	1,411,225	.....	46,111 42	14,112 25
Mercer	20,915,307	21,110,944	2,286,454	23,397,398	.....	36,000 00	70,192 19
Mifflin	3,600,000	2,800,000	580,000	3,380,000	.....	7,145 00	34,000 00
Monroe	1,445,655	1,300,213	109,309	1,499,522	.....	149,703 98	11,996 17
Montgomery	36,732,863	32,517,083	5,617,548	38,134,631	\$1,269,175	15,700 00	18,580 30
Montour	2,336,931	2,363,593	300,113	2,663,706	100,000	8,298 00	77,358 94
Northampton	13,663,960	43,927,434	4,311,896	48,239,330	.....	.....	40,939 07
Northumberland	7,016,529	6,814,556	429,951	7,244,507	5,625	.....	28,043 62
Perry	3,510,000	6,282,024	836,193	7,118,217	.....	69,156 00	12,309,439 97
Philadelphia	511,024,682	539,003,602	47,159,730	586,163,332	58,309,125	42,391,872 17	15,718 33
Pike	963,500	841,734	56,456	889,190	445	33,000 00	12,175 00
Potter	1,001,908	1,099,348	118,152	1,217,500	.....	34,825 00	187,903 11
Schuylkill	19,595,233	31,289,383	1,104,031	32,393,414	1,473,870	.....	12,745 45
Snyder	3,222,144	3,002,768	639,946	3,642,714	.....	.....	32,349 00
Somerset	4,049,988	3,478,974	814,772	4,293,746	.....	.....	7,893 55
Sullivan	594,753	719,718	69,637	789,355	.....	2,025 00	28,884 46
Susquehanna	3,562,800	3,108,993	362,265	3,471,258	300,000	10,000 00	63,873 99
Tioga	6,474,689	6,673,257	423,853	7,097,110	150,000	51,861 00	15,536 81
Union	4,956,600	4,015,947	4,493,995	16,359,262	.....	271,000 00	88,000 00
Warren	8,565,793	15,014,655	1,344,607	10,421,662	.....	130,000 00	23,203 67
Washington	2,158,080	9,714,091	1,707,571	15,395,655	.....	.....	115,467 00
Wayne	15,341,367	14,060,161	1,335,494	15,395,655	.....	.....	26,905 53
Westmoreland	1,597,730	1,464,686	329,016	1,793,702	.....	.....	88,002 07
Wilmington	8,782,665	26,400,872	2,924,138	29,325,010	.....	6,500 00	16,714 20
Wyoming	1,475,985	3,857,363	321,187	4,178,550	.....	.....	133,682 39
York	12,792,033	39,924,961	4,632,838	44,557,799	.....	246,140 03	16,804,830 98
	1,087,793,844	1,620,214,930	150,550,485	1,770,765,415	65,946,872	49,315,328 87	

TABLE, showing population, assessed and true values of real and personal estate, also proportion per capita of the assessed and true values.

COUNTIES.	Population, 1870.	Total assessed value of real and personal estate, 1874.	Assessed val- ue to each person.....	Multiple to produce the true value..	True value of real and personal estate.	True value to each per- son .....
Adams.....	30,315	\$11,368,043 00	\$375 00	2	\$22,736,086 00	\$750 00
Allegheny.....	262,204	282,711,269 00	1,078 00	4	282,711,269 00	1,078 00
Armstrong.....	43,382	10,102,875 00	232 00	4	40,411,500 00	931 00
Beaver.....	36,148	4,949,496 00	136 00	5	24,747,480 00	684 00
Bedford.....	29,635	4,444,221 00	149 00	5	22,221,105 00	749 00
Berks.....	106,701	21,394,010 00	200 00	5	106,970,050 00	1,002 00
Blair.....	38,051	7,924,435 00	208 00	3	23,773,305 00	624 00
Bradford.....	53,204	7,801,688 00	146 00	4	35,107,596 00	659 00
Bucks.....	64,336	21,398,656 00	332 00	3	74,895,296 00	1,164 00
Butler.....	36,510	7,988,537 00	218 00	3	27,959,879 00	765 00
Cambria.....	36,569	4,943,636 00	135 00	5	24,718,180 00	675 00
Cameron.....	4,273	1,006,169 00	235 00	3	3,018,507 00	706 00
Carbon.....	28,144	4,859,920 00	154 00	4	17,439,680 00	619 00
Centre.....	34,418	11,823,392 00	343 00	2	23,646,784 00	657 00
Chester.....	77,805	58,164,751 00	747 00	1	87,247,126 00	1,121 00
Clearfield.....	26,537	3,645,033 00	137 00	4	14,580,132 00	549 00
Clinton.....	25,741	8,420,051 00	327 00	1	12,630,076 00	490 00
Columbia.....	23,211	5,423,003 00	233 00	2	13,557,507 00	584 00
Crawford.....	28,766	5,709,501 00	198 00	3	17,128,503 00	595 00
Cumberland.....	63,832	23,102,218 00	361 00	1	40,428,881 00	633 00
Dauphin.....	43,912	12,974,171 00	295 00	3	45,409,598 00	1,034 00
Delaware.....	60,740	16,074,079 00	264 00	3	56,259,276 00	926 00
Elk.....	39,403	37,702,458 00	955 00	1	50,289,944 00	1,275 00
Erie.....	8,488	2,372,239 00	279 00	3	7,116,717 00	838 00
Fayette.....	65,973	40,784,579 00	618 00	1	61,176,808 00	927 00
Forest.....	43,284	14,592,443 00	337 00	2	36,481,107 00	865 00
Franklin.....	4,010	1,608,255 00	401 00	2	2,412,382 00	601 00
Fulton.....	45,365	14,184,556 00	312 00	2	35,461,390 00	781 00
Greene.....	9,360	1,117,763 00	119 00	3	3,353,289 00	358 00
Huntingdon.....	25,887	7,223,393 00	279 00	2	14,446,786 00	558 00
Indiana.....	31,251	5,305,582 00	169 00	5	26,527,910 00	848 00
Jefferson.....	36,138	8,399,709 00	232 00	3	25,199,127 00	697 00
Juniata.....	21,656	2,440,588 00	112 00	5	12,202,940 00	563 00
	17,390	2,490,696 00	143 00	4	9,962,784 00	572 00



TABLE, SHOWING POPULATION, &amp;c.—CONTINUED.

COUNTIES.	Population, 1870.	Total assessed value of real and personal estate, 1874.	Assessed val- ue to each person.....	Multiple to produce the true value..	True value of real and personal estate.	True value to each per- son .....
Lancaster.....	121,340	\$103,028,120 00	\$849 00	1 $\frac{1}{4}$	\$128,785,150 00	\$1,061 00
Lawrence.....	27,298	8,721,494 00	319 00	2	17,442,988 00	638 00
Lebanon.....	34,096	12,107,691 00	355 00	3	36,323,073 00	1,065 00
Lehigh.....	56,796	39,744,909 00	682 00	1 $\frac{1}{4}$	49,681,136 00	874 00
Luzerne.....	160,755	26,894,111 00	167 00	5 $\frac{1}{2}$	147,917,610 00	920 00
Lycoming.....	47,626	6,791,885 00	142 00	6	40,751,310 00	855 00
McKean.....	8,825	1,411,225 00	159 00	4	5,644,900 00	639 00
Mercer.....	49,977	23,397,398 00	468 00	1 $\frac{1}{4}$	40,945,446 00	819 00
Mifflin.....	17,508	3,380,000 00	193 00	4	13,520,000 00	772 00
Monroe.....	18,362	1,499,522 00	81 00	6	8,997,132 00	489 00
Montgomery.....	81,612	38,134,631 00	467 00	1 $\frac{1}{4}$	66,735,604 00	818 00
Montour.....	15,344	2,663,706 00	173 00	5	13,318,530 00	867 00
Northampton.....	61,432	48,239,330 00	785 00	.....	48,239,330 00	785 00
Northumberland.....	41,444	7,244,507 00	174 00	4	28,978,028 00	699 00
Perry.....	25,447	7,118,217 00	279 00	2	14,236,434 00	559 00
Philadelphia.....	647,022	586,163,332 00	905 00	1 $\frac{1}{4}$	1,025,785,831 00	1,585 00
Pike.....	8,436	898,190 00	106 00	6	5,389,140 00	638 00
Potter.....	11,265	1,335,652 00	118 00	5	6,678,260 00	592 00
Schuylkill.....	116,428	32,393,414 00	278 00	3	97,180,242 00	834 00
Snyder.....	15,606	3,642,714 00	233 00	3	10,928,142 00	702 00
Somerset.....	28,226	4,293,746 00	152 00	4	17,174,984 00	608 00
Sullivan.....	6,191	789,355 00	127 00	4	3,157,420 00	510 00
Susquehanna.....	37,523	3,471,258 00	92 00	6	20,827,548 00	555 00
Tioga.....	35,097	7,097,110 00	202 00	2 $\frac{1}{2}$	17,742,775 00	505 00
Union.....	15,565	4,439,095 00	285 00	3	13,317,285 00	855 00
Venango.....	47,925	16,359,262 00	341 00	2	32,718,524 00	682 00
Warren.....	23,897	10,421,662 00	436 00	.....	46,186,965 00	952 00
Washington.....	48,483	15,395,655 00	317 00	3	46,186,965 00	952 00
Wayne.....	33,188	1,793,702 00	54 00	8	14,349,616 00	432 00
Westmoreland.....	58,719	29,325,010 00	499 00	1 $\frac{1}{4}$	51,318,767 00	873 00
Wyoming.....	14,585	4,178,550 00	286 00	2 $\frac{1}{2}$	10,446,375 00	716 00
York.....	76,134	44,557,799 00	585 00	1 $\frac{1}{4}$	77,976,148 00	1,024 00
	3,521,791	1,760,765,415 00	.....	.....	3,425,325,415 00	.....

## HISTORICAL.

Great Britain always claimed what is now Pennsylvania from her discoveries along the Atlantic coast; but there can be no doubt that the first actual exploration of the Delaware Bay was under the auspices of the Dutch East India company bearing the flag of the United Netherlands. The visit of Lord Delaware, (from whom it was named,) Governor of the colony of Virginia, was not until the following year, 1610. Vessels under the auspices of the Dutch occasionally visited the Delaware, and one of them, the *Restless*, ascending to the present site of Philadelphia, until in 1624 a sort of temporary military government was organized. These explorations and this military occupancy were by the Dutch, subordinate to the government at New Amsterdam, now New York, the principal seat of the Dutch Empire on this continent. The English ambassador at the Hague entered repeated protests against these settlements as encroachments upon the rights of the English crown. The Dutch East India company, however, in the face of these repeated protests, went on to erect forts and trading posts on both sides of the bay, but never conducted them upon the principles of legitimate colonization. Like all money-making corporations, their primary object was to collect revenue from the trade of the native Indians, and any cultivation of the soil was a secondary consideration.

The great Swedish monarch, Gustavus Adolphus, on the eve of the battle of Leutzen, in which he was killed, had left an unsigned proclamation contemplating colonization of the Swedes upon the Delaware in the legitimate sense. This was not actually put in operation until twelve years after his death, to wit: 1638; and then without the vigor that he designed to have infused into his grand scheme of colonization. The Swedes, however, settled upon the west bank of the Delaware over forty years before the Royal Charter to William Penn, and earnestly set to work to cultivate the soil, and in all their intercourse with the Indians acted upon essentially the same pacific principles which became world-renowned under the founder of Pennsylvania. This peaceful policy of the Swedes did not protect them from the more warlike Dutch in 1655, and these latter had to surrender to the more powerful representatives of the English crown in 1664.

Seventeen years later Charles II, in liquidation of a debt of £16,000 due the estate of Admiral Penn, conveyed to his son William the Province of Pennsylvania. The name was given to it by the king, in honor of the admiral and against the consent of the grantee, then only known as a Quaker



preacher. William Penn made two visits to this country of about two years each, and was then the actual Governor of the province. He undoubtedly intended to have permanently settled here, and in his will enjoined his heirs to do so. The remaining portion of the thirty-seven years that intervened between the granting of his patent and his death was spent in England. The province was generally ruled by Deputy Governors, appointed by him and subject to removal at his will.

William Penn found the proprietorship of Pennsylvania not by any means a bed of roses. On the death of Charles and the accession of that great friend of his father and of his own, the Duke of York, to the crown, his intimacy with that subsequently deposed monarch had nearly cost him the forfeiture of his province. Quaker preacher as he was, the zealous Protestantism of that age saw in his devoted attachment to the deposed Roman Catholic monarch, disloyalty to William and Mary and the Protestant succession. His province was seized upon by the crown, and for nearly two years he had to vindicate his loyalty before it was restored to him.

The expenses forced upon him by these contests at home and the administration here caused him to declare in one of his letters that Pennsylvania had cost him £30,000 beyond what he ever received in return. In fact, in a despondent mood, on the eve of an apoplectic attack, from which he never recovered, he contracted for £12,000 to convey to the crown the province, for which thirty-one years before he had paid £16,000. The magnanimity of the sovereign refused to enforce the contract against the widow and heirs of William Penn. Judged simply from a financial stand-point, the Pennsylvania Legislature and British Parliament did better for the Penn heirs than the retention of their proprietary rights would have secured them. Pennsylvania granted them £130,000 or about \$650,000, and allowed them to retain their manors, forty-four in number, in consideration of the relinquishment of their proprietary rights. And the British Parliament granted them an annuity of £4,000 or some \$20,000, which is even to this time regularly paid them. I doubt if an account current of our land department would show a much better exhibit for the Penn heirs.

One other fact connected with the Penn family deserves a passing notice, to wit: That Pennsylvania, during a period of some eight years had a *de jure* female Governor. William Penn, by his will, vested all his proprietary rights in his wife Hannah, who became his sole executrix. Had she removed to Philadelphia she would have been *de facto* Governor of the province. Remaining abroad she exercised her proprietary rights through her deputy, Governor Keith. Several of her letters on public affairs show her to have been a woman of the type of Queen Elizabeth. If she did not box his ears she at least used the sharpest of language to communicate her commands.

The first and most serious controversy in regard to the boundaries of the province was with Lord Baltimore. This included an entire degree of latitude—should the southern line commence at the commencement or end of the fortieth degree of north latitude? Had Lord Baltimore's claim been successful, then the city of Philadelphia and a corresponding strip would have been cut off the southern counties of the State. Had William Penn's claims been allowed, the city of Baltimore and about half of Maryland would have been in Pennsylvania. The result of this was the compromise line, since famous as Mason and Dixon's, for many years the boundary between the free and slave States.

At a later period the authorities of Virginia claimed a large portion of western Pennsylvania, including the site of the present city of Pittsburg. This claim was not ended until after the revolution, and resulted in the extension of Mason and Dixon's line as our southern boundary. About the same time Connecticut claimed the extension of her chartered limits that would have cut off fully one-third the territory of the State. Blood was shed in the valley of Wyoming in asserting and defending these conflicting claims to State jurisdiction. This, too, shortly after the close of the revolution, was settled in favor of Pennsylvania. No accurate census was ever taken of the province of Pennsylvania. The number of inhabitants at the date of the charter to Penn was about twenty-five hundred, mostly Swedes. At the time of William Penn's death, thirty-seven years thereafter, there were probably one hundred thousand in the province, and at the Declaration of Independence about three hundred and twenty-five thousand, and at the date of the first census, 1790, four hundred and twenty-four thousand.

#### PROVINCIAL FINANCES.

The early history of the colony shows a government conducted on the simplest and most economical principles. Other colonies ruled by royal Governors paid large salaries from the royal exchequer were conducted with considerable pomp. William Penn's Quaker proclivities ignored all worldly pomp, and then he had no means to encourage extravagance. He was forced to be a frequent attendant at court at home, to protect from persecution his co-religionists and also the interests of his colony. This more than exhausted the income of his English estates, and, if his own letters are truthful, the receipts from the sale of lands in the colony were largely more than absorbed by the annual expenditures. Like many other very good men, I believe him to have been an indifferent financier. His letters show him to have been constantly in need of money, and that his estates were heavily mortgaged. Thus situated he was forced to select cheap Governors and all other officers to administer his provincial affairs.



His Governors are said to have received less than a thousand dollars a year from him, and had to rely upon the liberality—or frequently illiberality—of the provincial assembly. If the Governors were kept on starving salaries, of course all below them could not be expected to fare any better.

Things were in this condition during the thirty-seven years that William Penn administered the colony. His mortgaged estates descended to his family thus heavily encumbered. The income derived from the quit rents and sales of land had to be sent to England to extinguish this indebtedness. The result of this condition forced upon all officials rigid economy. In private life Quaker simplicity and Quaker thrift accorded with these public examples. The rapid growth and wonderful prosperity of the colony were largely owing to the good examples set in public and private by its early founders. And, if their descendants of the present day should more closely imitate these virtues of their ancestors, public morality would be largely promoted and private happiness not be materially lessened.

The royal charter to William Penn, which sought to revive in the seventeenth and eighteenth centuries the rights and traditions of the feudal law in the time of the Norman conquest, was a sad mistake; and scarcely a day passed in the legislative assembly, when its ill effects did not crop out in some form or other. About the middle of the last century commenced that series of disturbances, known as the French and Indian wars, which continued for a period of nearly fifteen years to embroil the peaceful inhabitants of Pennsylvania.

The debt incurred in defending the province during that long period, in proportion to the wealth of the inhabitants, was quite equal to the national debt incurred in suppressing the rebellion to the wealth of the present day. To enable the colony to meet these enormous expenditures, Franklin devised the expedient of a paper currency. Several sessions of the Assembly passed before even this could secure executive approval. But still a tax must be raised to pay the interest and sink the debt. The entire taxable value of the property of the citizens was some six millions of dollars. The Penn family held in their manors, their farms, their houses and lots reserved from sale, the value of fully another million. The great body of unsurveyed wild land it was never proposed to tax. But the serfs and retainers of a feudal Lord had never dared to talk of taxing his estates. A fearful struggle of ten years arose between the provincial Assembly on the one side and the Penn family on the other. Two full volumes of Franklin's works are filled with his writings on behalf of the people. All his tact, his skill and his diplomacy were tasked to their utmost. The contest ended, as all such contests must end in this age, when two hundred thousand are enlisted on the one side, and one family on the other.

The balance of the French and Indian war debt, and the expenditures of the State during the revolution of course tasked the utmost capacity of its financiers of that day. The thrift of Franklin and the skill of Morris carried the infant Commonwealth through the fiery ordeal. The Commonwealth, when fully organized under the Constitution of 1790, still adhered to the frugal habits of its early founders. The following were the annual expenditures of the State, as appears by official reports: 1802, \$341,446 12; 1809, \$547,950 49; 1820, \$440,801 55; 1829, \$799,099 10; 1839, \$1,621,119 84; 1850, \$4,566,300, and since that time something over \$5,800,000 per annum, of which nearly \$2,000,000 has been interest to pay the public debt. This public debt has been reduced for some years more rapidly than in my judgment wise statesmanship requires it to be. It is largely held by persons and estates that do not desire its principal to be paid. The assets in the sinking fund amounting to \$9,500,000 will not be due until 1891. If the present debt was paid off at the rate of one million a year until these sinking fund assets become due, the whole could then be extinguished. A reduction of taxation so as to meet necessary expenditures and one million of reduction is what wise statesmanship requires.

#### GOVERNORS—COLONIAL AND STATE.

List of Governors of colonies on the Delaware and of the Province and State of Pennsylvania, for 264 years.

##### DUTCH RULE ON THE DELAWARE.

The Dutch claim to have had possession of both banks of Delaware Bay and river, from Hudson's first visit in 1609, to their surrender to the English in 1664, and again from August, 1673, to November, 1674, when they regained possession. Their chief magistrates were:

Cornelius Jacobson Mey	from	1624	to	1625
William Van Hulst	do	1625	to	1626
Peter Minuet	do	1626	to	1632
David Pietersen De Vries	do	1632	to	1633
Vouter Van Twiller	do	1633	to	1638
Sir William Kieft	do	1638	to	1647
Peter Stuyvesant	do	1647	to	1664

During this last administration there were six deputies under Stuyvesant—part of the time sub-divided into city and company directors. The Dutch surrendered to the English September, 1664.



## SWEDES ON WEST BANK OF THE DELAWARE.

Peter Minuet.....	Governor from.....	1638	to	1641
Peter Hollander.....	do.....do.....	1641	to	1643
John Printz.....	do.....do.....	1643	to	1653
John Pappegoya.....	do.....do.....	1653	to	1654
John Claude Rysingh.....	do.....do.....	1654	to	1655

Swedes surrendered to Dutch, September, 1655.

## ENGLISH RULE ON THE DELAWARE.

Col. Richard Nichols, Governor at New York, and Robert Needham, Deputy on the Delaware, from 1664 to 1667.

Col. Francis Lovelace, Governor at New York, and Capt. John Carr, Deputy on the Delaware, from 1667 to 1673.

Re-captured by the Dutch, August, 1673, and held to November, 1674, when the English again regained possession.

Anthony Clove, Governor, and Peter Alricks, Deputy, to November, 1674, under the Dutch.

Sir Edmund Andross, Governor at New York, and his Deputies.

Edmund Cantwell, Commander on the Delaware from 1674 to 1676.

John Collier, Commander on the Delaware from 1676 to 1677.

Christopher Billop, Commander on the Delaware from 1677 to 1681.

## PROPRIETARY RULE ON THE DELAWARE.

William Markham, Deputy from June, 1681, to October 24, 1682.

William Penn, Governor from October 24, 1682, to August 12, 1684.

Thomas Loyd, President of Council, from June, 1684, to December, 1686.

Five Commissioners appointed by Penn, from 1686 to 1688.

John Blackwell, Deputy Governor from 1688 to 1690.

Thomas Loyd, President of Council, from 1690 to 1691.

Thomas Loyd, Deputy Governor, from 1691 to 1693.

William Penn's "suspected intimacy with the deposed King James" caused William and Mary to forfeit his patent, and ordered Benjamin Fletcher, Governor of New York, to assume for the Crown the Province of Pennsylvania. In August, 1694, however, being satisfied of the injustice done him, William Penn was reinstated in all his rights.

William Markham, Deputy Governor from 1695 to 1699.

William Penn, Governor from November, 1699, to November, 1701.

Andrew Hamilton, Deputy, from November, 1701, to April, 1703.

Edward Shippen, President of Council, from April, 1703, to February, 1704.

John Evans, Deputy, from February, 1704, to February, 1709.

Charles Gookin, Deputy, from February, 1709, to May, 1717.

Sir William Kieth, Deputy, from May, 1717, to July, 1726. .

William Penn died July 30, 1718, and his wife Hanna as sole executive for the heirs, became vested with all proprietary rights, and ruled by her deputies for eight years.

JOHN, RICHARD AND THOMAS PENN, PROPRIETORS FROM 1727 TO 1746.

Patrick Gordon, Deputy Governor, from July, 1726, to August, 1736.

James Logan, President of the Council, from August, 1736, to August 1738.

George Thomas, Deputy Governor, from August, 1738, to May, 1747.

RICHARD AND THOMAS PENN, PROPRIETORS FROM 1746 TO 1771.

Anthony Palmer, President of Council, from 1746, to November, 1748.

James Hamilton, Deputy Governor, from November, 1748, to October, 1754.

Robert Hunter Morris, Deputy Governor, from October, 1754, to August, 1756.

William Denny, Deputy Governor, from August, 1756, to October, 1759.

James Hamilton, again Deputy Governor, from October, 1759, to November, 1763.

John Penn, Deputy Governor, from November, 1763 to 1771.

James Hamilton, President of Council, 1771.

THOMAS AND JOHN PENN, PROPRIETORS FROM 1771 TO 1776.

Richard Penn, Lieutenant Governor, from October, 1771, to August, 1773.

John Penn, Deputy Governor, from August, 1773, to July, 1776.

A committee of public safety, Benjamin Franklin, Chairman, voluntarily chosen in 1775, were *de facto* the government until the Constitution of 1776 was adopted, and an organization completed under it. John Penn continued to live here during the Revolution and until his death in 1795; his remains were interred in Christ church-yard, in Philadelphia, but were removed by his family afterward to England.

On November 27, 1779, the Legislature vested the Penn proprietary interests in the Commonwealth, paying the family however, £130,000 or about \$650,000, and allowing them to retain their manors, forty-four in number, worth probably as much more, also their private estates.

The English Parliament in 1790, granted to the Penn family an annuity of £4,000 or \$20,000, in consideration of the services of William Penn and losses by his family, and this annuity is regularly paid up to this time, 1873. The Chancellor last year, on being interrogated, saying that the government had no intention of suspending this payment.



## CONSTITUTION OF 1776.

By this Constitution the Presidents of the Executive Council were Governors—

Thomas Wharton, President, March 5, 1777, to his death, May 23, 1778.

George Bryan, Acting President, May 23, 1778, to December 1, 1778.

Joseph Reed, President, December 1, 1778, to October 8, 1781.

William Moore, President, November 14, 1781, to October 8, 1782.

John Dickinson, President, November 7, 1782, to October 18, 1785.

Benjamin Franklin, President, October 18, 1785, to October 14, 1788.

Thomas Mifflin, President, November 5, 1788, to December 20, 1790.

## GOVERNORS UNDER THE CONSTITUTION OF 1790.

Thomas Mifflin, three terms, from December 20, 1790, to December 17, 1799.

1790. First election, Thomas Mifflin, 27,725 ; Arthur St. Clair, 2,802.

1793. Second election, Thomas Mifflin, 18,590 ; F. A. Muhlenberg, 10,706.

1796. Third election, Thomas Mifflin, 30,029 ; F. A. Muhlenberg, 10,011.

Thomas M'Kean, three terms, December 17, 1799, to December 20, 1808.

1799. First election, Thomas M'Kean, Democrat, 38,036 ; James Ross, Federal, 32,641.

1802. Second election, Thomas M'Kean, Democrat, 47,879 ; James Ross, Federal, 17,037.

1805. Third election, Thomas M'Kean, Independent Democrat, 43,644 ; Simon Snyder, Democrat, 38,878.

Simon Snyder, three terms, December 20, 1808, to December 11, 1817.

1808. Simon Snyder, Democrat, 67,975 ; James Ross, Federal, 39,575 ; John Spayd, 4,006.

1811. Simon Snyder, Democrat, 52,319 ; Wm. Tilghman, Federal, 5,248.

1814. Simon Snyder, Democrat, 51,099 ; Isaac Wayne, Federal, 29,566 ; G. Littimore, 910.

Wm. Findlay, one term, December 17, 1817, to December 19, 1820.

1817. Wm. Findley, Democrat, 66,331 ; Joseph Hiester, 59,272.

Joseph Hiester, one term, December 19, 1820, to December 16, 1823.

1820. Joseph Hiester, Federal, 67,905 ; Wm. Findley, Democrat, 66,300.

John Andrew Shulze, two terms, December 16, 1823, to December 16, 1829.

1823. John Andrew Shulze, Democrat, 89,928 ; Andrew Gregg, Federal, 64,211.

1826. John Andrew Shulze, Democrat, 72,710 ; John Sergeant, Federal, 2,349.

George Wolf, two terms, December 16, 1829, to December 15, 1835.

1829. George Wolf, Democrat, 78,219; Joseph Ritner, Anti-Mason, 61,766.

1832. Geo. Wolf, Democrat, 91,335; Joseph Ritner, Anti-Mason, 88,165. Joseph Ritner, one term, December 15, 1835, to January 15, 1839.

1835. Joseph Ritner, Anti-Mason, 94,023; George Wolf, Democrat, 65,804; Henry A. Muhlenberg, 40,586.

#### GOVERNORS UNDER THE CONSTITUTION OF 1838.

David Rittenhouse Porter, two terms, January 15, 1839, to January 21, 1845.

1838. David Rittenhouse Porter, Democrat, 127,821; Joseph Ritner, Anti-Mason, 122,325.

1841. David Rittenhouse Porter, Democrat, 136,504; John Banks, Whig, 113,473; and F. J. Lemoyne, Abolitionist, 763.

Francis Rahn Shunk, twice elected, January 21, 1845, to July 9, 1848. Governor Shunk resigned July 9, 1848, and died shortly thereafter.

1844. F. R. Shunk, Democrat, 160,322; Joseph Markle, Whig, 156,040, and F. J. Lemoyne, Abolitionist, 2,566.

1847. F. R. Shunk, Democrat, 146,081; James Irwin, Whig, 128,148; E. C. Reigart, Native American, 11,247, and F. J. Lemoyne, Abolitionist, 1,861.

William Freame Johnston, July 9, 1848, to January 20, 1852.

1848. William F. Johnston, Whig, 168,522; Morris Longstreth, Democrat, 168,225.

William Bigler, one term, January 20, 1852, to January 16, 1855.

1851. William Bigler, Democrat, 186,489; W. F. Johnston, Whig, 178,034, and Kimber Cleaver, Native American, 1,859.

James Pollock, one term, January 16, 1855 to January 19, 1858.

1854. James Pollock, Whig, 203,822; William Bigler, Democrat, 166,191, and B. Rush Bradford, Native American, 2,194.

William Fisher Packer, January 19, 1858, to January 15, 1861.

1857. William F. Packer, Democrat, 188,846; David Wilmot, Free Soil, 146,149; Isaac Hazelhurst, Native American, 28,168.

Andrew Gregg Curtin, two terms, January 15, 1861 to January 15, 1867.

1861. A. G. Curtin, Republican, 262,346; Henry D. Foster, Democrat, 230,239.

1863. A. G. Curtin, Republican, 269,506; G. W. Woodward, Democrat, 254,171.

John White Geary, two terms, January 15, 1867, to January 21, 1873.

1866. J. W. Geary, Republican, 307,274; Heister Clymer, Democrat, 290,096.



1869. J. W. Geary, Republican, 290,552; Asa Packer, Democrat, 285,986.  
John F. Hartranft, January 21, 1873, to January, 1876.

1873. J. F. Hartranft, Republican, 353,387; Charles R. Buckalew, Democrat, 317,760.

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### CONSTITUTIONS—COLONIAL AND STATE.

Charles II, of England, in March 1681, by his charter to William Penn, vested in him, in accordance with the doctrines of the feudal law, all the rights, powers and so forth which we now recognize as inherent in the citizen. In exact accordance with this theory was William Penn's first grant called "concessions to purchasers of lands" in twenty sections, dated July 11, 1681. This was followed, April 11, 1682, by his frame of government in twenty-four sections, in the preamble to which he expressly disavows all authority over his colonists, except such as could be proved by the Christian Scriptures. His laws in forty sections followed while still in England, and upon his arrival upon the Delaware, at the first Assembly at Old Chester, all these were ratified, and in addition thereto his great law in sixty-nine sections was enacted. These constituted not in form, but in substance the Colonial Constitution under which the province grew and flourished until the date of the American revolution. We presume that the members of the Constitutional Convention of 1872-3 had carefully studied this Penn's Constitution, as both documents contain about in equal proportions constitutional principles and legislative enactments. This Constitution was modified in some of its details by William Penn in 1683-1696, and most of all on his second visit to the province in 1701, and by still more important unwritten amendments, after the manner of the English Constitution, wrested from the Penn family by the persistent demands of the Colonial legislative assemblies. The most important of these unwritten concessions was the right to pass laws organizing the judicial branch of government; to issue paper money, and above all the right to tax the proprietary estates to defray the public expense. This aggregate of constitutional law, written and unwritten, was the inheritance of our ancestors for nearly a century; about equal in time to the four Constitutions of the Commonwealth.

The first Convention to form a Constitution in our modern sense of that term met in Philadelphia July 15, 1776. Of that Convention Benjamin Franklin, then in the seventy-first year of his age, but in the fullest enjoyment of his intellectual faculties, was the president, and tradition has always assigned to him the chief agency in its preparation. The classification since adopted in the national Constitution of 1787 into articles, these subdivided into sections, now almost universally followed, had not then been

devised. This Franklin Constitution was about one-third shorter than that of 1790, one-half shorter than that of 1837-8, and about one-fifth the length of 1872-3. I very much doubt if the political wisdom of these latter days has kept equal pace with the number of sections of these later charters of our liberties. The peculiarities of this Franklin Constitution were : Instead of a Governor, all executive powers were vested in a council of twelve ; no Senate ; all legislative powers were in a single Assembly, and a council of censors, elected every seven years, to see that all other departments confined themselves to their proper spheres.

The second Constitutional Convention assembled November 24, 1789, continued in session until the 26th of February, 1790, and then adjourned until August 9, and finally proclaimed its Constitution adopted September 2, 1790. This Constitution was modeled in its arrangement and grant of powers after the national one, then recently adopted, and undoubtedly gave more satisfaction than any other our State has ever had. It was our fundamental law for forty-eight years, and an attempt made in 1825 to call a new Convention was largely defeated.

The Convention of 1837-38 only attempted to amend the Constitution of 1790. It took from the Governor the appointment of county officers, and made all these elective by the people, inserted the word *white* to limit the elective franchise, and made the judicial department to hold office for ten and fifteen years, instead of for life, as under the Constitution of 1790. Yet these moderate changes only secured their adoption by the people by a majority of a few votes over twelve hundred. This Constitution also provided a mode of amendment by the action of two succeeding Legislatures and adoption by a vote of the people. This, it was then supposed, would render all future conventions unnecessary. By this agency the judiciary was made elective by the people in 1850 ; the State, county, and municipal authorities were forbidden to subscribe to the construction of internal improvements in 1857 ; and the soldiers in the field, in time of war, were guaranteed the right of suffrage in 1864. The people, not satisfied with this slow, piece-meal mode of amendment, provided for a new convention to amend the old, or to create a new Constitution for the State. Hence came into existence the Convention of 1872-73, which sat for nearly a year, and has produced a new Constitution more than equal in length to all the Colonial and State Constitutions which preceded it. The people of the State have just adopted this new Constitution by a vote unprecedented in her history, and I hope its administration may demonstrate it to be an instrument as much superior in its political guarantees as in length it surpasses its predecessors. The historian should rarely attempt to write of passing events ; hence I shall not risk my reputation as prophet by attempting to tell you of its wise and multifarious provisions.



## THE PENN MANORS.

The Royal Charter vested in William Penn and his heirs the absolute ownership of the soil of Pennsylvania. From 1681, the date of the charter, to July 4, 1776, the date of the Declaration of Independence, all titles had to be derived from the Penn family; and within the reserved manors since all titles have still to be traced to them.

The Surveyor General, under the Penns, had selected and surveyed off some forty-four manors for the more exclusive use of the proprietors. A list of these, as accurate as the Land Office can furnish, with their contents, compose the first table. Large portions of these manors had been disposed of before the Revolution, especially in Eastern Pennsylvania. How much remained unsold in 1776 I have no means of learning.

William Penn, by his will, had left to each of his children ten thousand acres of land in Pennsylvania, and at various times some of the family had assigned to them portions of land. These are the "private estates" referred to in the act of 1779, and are, as far as the Land Office is informed, covered by the second table.

The Legislature passed an act on the twenty-seventh of November, 1779, in consideration of one hundred and thirty thousand pounds sterling, (or six hundred and fifty thousand dollars,) vesting in the Commonwealth all the proprietary rights, under the Royal Charter; reserving, however, to the Penn heirs, their manors surveyed and returned prior to July 4, 1776, and their private estates—meaning, I presume, all property which had been severed from the general proprietary estate, and vested in any one or more members of the Penn family. The eighth and thirteenth sections are as follows:

"VIII. *Provided also, and be it enacted*, That all and every the private estates, lands and hereditaments, of any of the said proprietaries, whereof they are now possessed, or to which they are now entitled, in their private several right or capacity, by devise, purchase or descent; and likewise all the lands called and known by the name of the proprietary tenths or manors, which were duly surveyed and returned into the Land Office, on or before the fourth day of July, in the year of our Lord one thousand seven hundred and seventy-six, together with the quit or other rents and arrearages of rents, reserved out of the said proprietary tenths or manors, or any part or parts thereof, which have been sold, be confirmed, ratified and established forever, according to such estate or estates therein, and under such limitations, uses and trust, as in and by the several and respective reservations, grants and conveyances thereof, are directed and appointed.

“ XIII. *Be it further enacted*, That the sum of one hundred and thirty thousand pounds, sterling money of Great Britian, be paid out of the Treasury of this State, to the devisees and legatees of Thomas Penn and Richard Penn, late proprietaries of Pennsylvania, respectively, and to the widow and relict of the said Thomas Penn, in such proportions as shall hereafter by the Legislature be deemed equitable and just, upon a full investigation of their respective claims.”

So far as our information goes, we give such a designation of the county and neighborhood in which these manors lie as will enable our readers to form some idea of the location and value of these Penn estates :



## LIST OF MANORS laid out by the Penn family and reserved by them by settlement of 1779.

NAME.	QUANTITIES.		LOCATION.	REMARKS.
	Acres.	Perches.		
Springettsburg.....	1,840	.....	Philadelphia.....	The family name of Wm. Penn's first wife was Springett. His eldest son was also named Springett. This manor and some others were named to compliment his wife's family [and his son.
Springfield.....	4,010	.....	Philadelphia, (now Montgomery.)	On the Schuylkill, near Phoenixville.
Guthrie's.....	4,045	.....	Philadelphia.....	Thomas Callowhill was one of the purchasers of 5,000 acres from Wm. Penn, 22d March, 1682. A street in Philadelphia also commemorates him. William Penn's second wife
Callowhill.....	5,000	.....	Chester county.....	was a daughter of Thomas Callowhill.
Amorland of Bilton.....	2,850	.....	Do.....	William Penn's daughter, Letitia, married William Ambrey.
Letitia Ambrey's.....	5,000	.....	Do.....	A township called Pennsbury probably designates the location of this manor.
William Penn.....	5,000	.....	Do.....	This name is probably a derivation from the Springett family.
Faggs.....	7,475	.....	Do.....	[manor.
Swington.....	10,000	.....	Bucks county.....	A township by this name, in northern part of Bucks county, indicates the location of this
Highland.....	7,750	.....	Do.....	This manor was on the bank of the Delaware, above Bristol, and is said to have been, at
Richland.....	16,749	.....	Do.....	one time, designed by William Penn to have been the site of his great city, afterwards
Pennsbury.....	8,431	.....	Do.....	changed to Philadelphia. He there built a family mansion, in which he resided during
Perkisey or Perkaise.....	11,462	.....	Do.....	his second visit to his Province.
Wallenpaupack.....	12,150	.....	Do..... (now Wayne.)	A stream forming the boundary line between Wayne and Pike counties designates the lo-
Ruscomb.....	10,000	.....	Berks county.....	cation of this manor. This creek has, near its mouth, a succession of cataraets, and
Tulpehocken.....	7,510	.....	Do.....	falls a distance of 150 feet in 1½ miles.
Antolhough.....	5 w'ts of R Penn.	.....	Lancaster county.....	A township known as Ruscomb Manor, in Berks county, marks the location of this manor.
Conestoga.....	16,000	.....	Do.....	In the north-western part of Berks county two townships, Upper and Lower Tulpehocken,
Charles Fells.....	10,000	.....	Do.....	designate the location of this manor.
Freane's.....	10,000	.....	Do..... (now Schuylkill.)	The number of acres in this manor is not given. These five warrants were most likely
Hempfield.....	2,816	.....	Do.....	issued to Richard Penn about the time of the Revolution, and probably contained about
Little Swatara.....	5,000	.....	Do.....	5,000 acres.
Louth r.....	7,557	.....	Cumberland county.....	This large body of land lay on both sides of the Conestoga creek. Two townships, one
Maske.....	(15,000)	.....	York county, (now Adams.)	Manor and the other Conestoga, designate its location.
Yorktown.....	421	.....	Do.....	This manor was situated near the line of Berks and Lebanon counties, on the Tulpehocken
Springettsburg.....	64,520	.....	Do.....	creek. Named from Charles Fells, who married a grand-daughter of William Penn.
Lechawaxin.....	80,000	.....	Do.....	A grand-daughter of William Penn married Thomas Freane.
Stoke.....	9,800	.....	Do.....	Two townships in Lancaster county, East and West Hempfield, indicate the location of
Sunbury.....	20,000	.....	Do.....	this manor.
Amsterdam and Rotterdam.....	2,770	.....	Do.....	The creek by this name, in the western part of Schuylkill county, designates the location
			Do.....	of this manor.
			Do.....	The borough of Carlisle is said to be located within what was this manor.
			Do.....	The number of acres in this manor is not given. The manor was a large one, including
			Do.....	all of Cumberland and most of Straban townships, Adams county, containing probably
			Do.....	not less than 15,000 acres.
			Do.....	{ A part of Springettsburg.
			Do.....	{ These two manors contained a great body of magnificent land around the borough of
			Do.....	York, upon the Codorus creek.
			Do.....	This tremendous large manor, formerly in Northampton county, (now Pike,) and prob-
			Do.....	ably a portion in Wayne county, lies upon a stream of the same name.
			Do.....	This manor was undoubtedly designed to commemorate a country seat near London, for-
			Do.....	merly by name of Stoke Pogis, the residence of Lord Coke, which afterwards came into
			Do.....	the Penn family.
			Do.....	This manor included that fine body of land at the junction of the North and West Branches
			Do.....	of the Susquehanna, on which the borough of Sunbury is located.

## LIST OF MANORS—Continued.

NAME.	QUANTITIES.		LOCATION.	REMARKS.
	Acres.	Perches.		
Pomfret .....	4,766	.....	Northumberland county.....	Thomas Penn, son of the proprietor, married a daughter of the Earl of Pomfret. This manor was named to compliment the Earl.
Muncy .....	1,802	141	Do.....(now Lycoming.)	A town by this name designates the location of manor. This whole neighborhood was originally settled by Quakers.
Dundee .....	3,520	.....	Do.....(now Bradford.)	This was probably designed to compliment a famous Welsh Quaker, Hugh David, who accompanied Wm. Penn to this country on his second visit, and who presented to Thomas Penn, in 1732, some verses tracing the Penn family as a branch of the Royal Tudors.
St. Davids.....	3,092	.....	Do.....	
Penn Grove .....	4,545	.....	Do.....	
Kittanning .....	3,960	.....	Westmoreland co., (now Arms' g.)	The famous Indian town, Kittanning, now the county seat of Armstrong county, captured by Col. Armstrong, in 1756, from the Indians, is located upon this manor.
Denmark .....	4,861	.....	Do .....	This manor is situated on Bushey Run. The Pennsylvania railroad, by naming a station "Manor," designates its location. Col. Bouquet's battle was fought August, 1763, within this manor.
Penn's Lodge .....	5,508	.....	Do .....	In the southern part of the county Sewickley creek and township mark its location.
Pittsburgh .....	5,766	.....	Do.....(now Allegheny.)	The city of Pittsburgh occupies mainly the site of this manor. This is now probably more valuable than any of the others. A recent assessment board has assessed its value at \$176,147.774.
Cherry Hill .....	1,202	40	Do.....(now Indiana.)	A township in the northern part of Indiana county by that name indicates the location of this manor.
Chest .....	1,123	113	Do.....(now Cambria.)	The location of this manor is designated by a township of the same name in the northern part of Cambria county.
Nottingham.....	1,035	80	Do.....(now Washington.)	In the north-east part of Washington county a township by same name marks its location.
Bedford Fort .....	2,810	80	Bedford county .....	Bedford, the county seat of Bedford county, is situated upon this manor; also the famous Bedford Springs.
Sinking Valley .....	9,056	.....	Do.....(now Blair.)	The location of this manor is indicated by a post office of same name in Blair county.
	421,015	82		

LISTS OF LANDS, other than Proprietary Manors, owned by members of the Penn family.

NAME.	QUANTITIES.		LOCATION.
	Acres.	Perches.	
Safe Harbor .....	2,292	.....	Wayne county—situated on the west side of the Delaware, at the mouth of Equinunk creek.
Damascus .....	4,390	80	Northumberland county, at Coshicung.
William Penn, Jr. ....	2,770	30	Wayne county, (formerly Northumberland county.)
The Meadows .....	5,214	139	.....do..... warrant 1683. Lechawaxin and Equinunk creeks. Re-surveyed for Peter Gaskill. Pat. 7th June, 1906.
The Mill-Seal .....	3,032	90	.....do..... (formerly Northumberland county.) East side of Moosie W's, on waters of Lechawaxin creek.
Duck's Harbor .....	3,090	155	.....do..... On most southerly branch of Equinunk creek, 5½ miles from Delaware.
Fox Harbor .....	510	25	.....do..... On head-branch of Little Equinunk creek, 5 miles from Delaware.
Beaver Harbor .....	1,640	23	.....do..... On east branch of Lechawaxin.
Cowpasture .....	3,653½	.....	On Beaver pond, branch of Quake creek, 100 perches west of Nescopeck path, near the line of Carbon and Luzerne counties.
Pleasant Garden .....	3,603	.....	Schnykill county, on the most westerly branch of the Tamaqua or L. Schnykill.
Sandy Run .....	20,948	56	Wayne county, on Big Middle creek, a westerly branch of Lechawaxin and Equinunk creeks.
Terraphin Harbor .....	1,280	40	Wayne county, on east branch of Lechawaxin, called Sandy run, 10 miles from Delaware.
Brewer's Den .....	839½	.....	On Terraphin creek, north side of Broad Mountain, on path from Galfenbitten to Wyoming, near line of Luzerne and Carbon.
Shohecking .....	312	48	Wayne county, on a branch of Equinunk creek.
Elk Forest .....	520	.....	Wayne county, on west side of Delaware, at mouth of Popautunk.
.....	11,526	.....	Wayne county, on waters of Lechawaxin and Big Middle creek.
.....	12,200	.....	Berks county, between Ruscomb Manor and Reading.
.....	549	.....	Brecknock township, Berks and Lancaster counties.
The Indian Landing .....	1,272	.....	Dauphin county, on the Susquehanna and Paxton creek.
Crooked Dale .....	1,865	.....	Susquehanna county, on the North-East Branch of Susquehanna, opposite mouth of Owego.
Job's Discovery .....	1,028	.....	Susquehanna county, on the North-East Branch of Susquehanna.
.....	1,615	.....	Lycum county, on West Branch river, at the mouth of Muncy creek.
Highland .....	2,571	40	Huntingdon county, on head-waters of Shavers's and Standing Stone creeks.
.....	763	.....	Huntingdon county, south-east side of Tussey's Mountain and north-west side of Warrior Ridge.
.....	2,473½	.....	Huntingdon county, on head-waters of Shavers's and Standing Stone creeks.
.....	1,497	.....	Blair county, two miles above Frankstown.
Lake Paupunaumung .....	466	70	Huntingdon county, on head of Water Street.
Vineyard .....	215	.....	Monroe county, in Hamilton township, (lako 100 pr. long.)
.....	2,000	.....	On Andenella creek, sixty miles from Philadelphia.
Manors .....	88,997	276	
.....	421,015	82	
Total .....	510,012	358	



The passage of this act was undoubtedly the highest act of sovereignty ever exercised by any State Legislature. Our ancestors of 1776 were not timid men. During the revolution, our State Legislature passed numerous acts forfeiting the estates of those whom they called tories or traitors. In later days we all remember what a howl was raised when Thaddeus Stevens and other earnest men asked Congress to confiscate the estates of armed rebels. But the tories had a far better excuse than our modern rebels. They said they only wanted to continue the old order of things. But our modern rebels overturned the existing order of things; rebelled against the mildest form of government ever known, and set up another in opposition thereto. Had Congress ordered them to be hanged and their estates confiscated, a thousand precedents would have justified it, and among others, Pennsylvania in our revolutionary days.

In case of the Penn estates, the act was a generous one. John and Richard Penn had remained here during the Revolution, their sympathies being known to be with the mother country. They knew that plenty of precedents existed to warrant the confiscation of all their proprietary rights and estates. Hence they and the other members of the Penn family gladly accepted this tender by the Legislature. In fact we do not believe that any injustice was done the Penn heirs by this act of confiscation as some have called it. Each one can form his own idea of the value of the manors and lands reserved them in the foregoing schedules. If wisely managed they ought to have realized a million of dollars from them, and then they were paid in cash \$650,000. And the British Parliament by an act in 1790, in consideration of their losses in Pennsylvania and the eminent services of their ancestors, granted them an annuity of £4,000 sterling or \$20,000 of our money. This has been regularly paid them eighty-three years and amounts to \$1,660,000. Now, if Wm. Penn's letters were true, complaining that during his life-time the care of his Province had cost him more than he had ever realized from it, then certainly his heirs made a capital bargain with our Commonwealth and the British Parliament.

William Penn originally received the grant of this province in consideration of £16,000 owed his father, Admiral Penn, for services and advances. And yet, thirty-one years thereafter, on the eve of his apoplectic attack, from which he never recovered, he contracted to release all his rights in consideration of £12,000 to be paid him by the crown. This contract was not enforced against his heirs, and certainly they fared five hundred times better by the Pennsylvania Legislature and the British Parliament. These Penn manors were intended to be, and I have no doubt were, the choicest lands in the province at that early day. What the improvements of a century, the growth of cities and towns, the opening of mines, the erecting of manufacturing establishments, the location of canals and railroads, may

have since done, is another question. When made, these Penn lands were believed to be the garden spots of the then province, now State of Pennsylvania.

The Penn family have always had—probably still have—an agency in Philadelphia for the management and sale of their lands. Your Harrisburg Land Office has only the outside lines of these manors. The subdivision of them into lots or farms can alone be ascertained by referring to the Penn surveys. I suggest that the Surveyor General be authorized by the Legislature to see if the records now in the possession of the Penn agents cannot be transferred to your Land Department for reference in all questions of title. These records will soon become an encumbrance to the Penns, and ought to be deposited where they might be accessible in all controversies in regard to titles within these manors. In one form or other probably one-tenth the titles to real estate in the Commonwealth go back to the Penn records for their origin.

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#### THE CAPITALS AND PUBLIC GROUNDS.

Old Chester, below Philadelphia, was undoubtedly the first capital of our State. There William Penn, in December 1682, presided in the first Legislative Assembly of the Province, adopted the first Constitution and his great law in sixty-nine sections. The house in which they met, occupied as a cooper-shop, and the "Old Oaken Chair," in which William Penn sat as Speaker, were still to be seen a few years since. With this solitary exception, however, Philadelphia was the capital of the State during the entire period of the proprietary government. The legislative assembly was accustomed to meet most frequently at "The Great Meeting House" of the Friends, until in 1707 a court house was built. This continued the Capitol until the modern State House, containing Independence Hall, was built in 1734. The legislative assembly occupied what is known as Independence Hall. The sittings of the proprietary council were in the second story. The use of the Legislative Chamber was granted to the Colonial Congress, and since the fourth of July, 1776, is known as the Hall of Independence. The approach of the British army in 1777, warned the Executive Departments to remove elsewhere, and Lancaster was the seat of State government until the withdrawal of the British army in June, 1778, permitted the Executive and Legislative Departments again to return to Philadelphia. That city is the place in which all four of our State Constitutions

have been agreed upon. The entire sessions of the Constitutional Conventions of 1776-90 were held there, the earlier sessions of the Constitutional Conventions of 1837-8, and 1872-3 were held in Harrisburg but adjourned to Philadelphia, and both Constitutions were finally agreed upon there.

The public sentiment of this country appears to have fixed that the State Capitols should not be located in large commercial cities. With the exception of Massachusetts and Virginia, subordinate towns, located in the interior of the States and at some considerable distance from the great commercial centres have been selected. I suppose that it was this feeling which prompted our Legislature in 1799, to order the removal of all departments to Lancaster where the Legislature in December of that year met. The location of the State Capital, at Lancaster, does not appear to have been regarded at any time as a permanent one. Almost every session of the Legislature was agitated with this question. The chief points urged were Philadelphia, Carlisle, Harrisburg and Northumberland. Finally in February, 1810, Harrisburg was fixed upon as the place and October, 1812, as the time when the Executive Departments should be removed there. John Harris, the founder of Harrisburg, on the 6th of July, 1785, had conveyed to trustees four acres and twenty-one perches of land in trust for a State Capitol. This ground constitutes the eastern end of the public square upon which the arsenal has heretofore stood. The ten acres of the western end of the public square was purchased from William M'Clay by deed dated 17th May, 1810, in consideration of one hundred dollars per acre. This one thousand dollars was understood to be for the use of the sisters of Mr. M'Clay for interests held by them. Mr. M'Clay being a large land holder, of what was known at that day as M'Claysburgh, made a donation of his interest to secure the location of the capitol. An intervening strip of ground between the M'Clay and Harris property was purchased for eleven hundred dollars. Within the last year (1873,) a triangular block, bounded by Walnut and Fourth streets, adjacent to the old arsenal, has been vested in the State by proceedings in the Dauphin county court. The amount of ground thus acquired is a little less than one acre; but a brewery and a number of dwelling houses situated upon it, caused the viewers to assess its value at forty-nine thousand seven hundred dollars, and the costs added thereto increased the amount to fifty thousand dollars. The public square contains nearly fifteen acres; and the original cost to the Commonwealth was something over fifty-two thousand dollars. The two wings of the capitol designed for the accommodation of the public officers were first built. The appropriations for these were as follows :



By act 21st February, 1810.....	\$30,000 00
“ 28th March, 1811.....	30,000 00
“ 10th March, 1812.....	13,000 00
By resolution 25th June, 1839.....	10,000 00
“ 21st April, 1840.....	2,300 00
	<hr/>
	85,300 00

The records of the accounting department, including no doubt, some extras and the re-fitting and furnishing, add a few thousand dollars to the above. An act of 2d March, 1813, appropriates thirteen thousand dollars for fire proof departments.

## STATE CAPITOL PROPER.

By an act of 18th March, 1816.....	\$50,000 00
By an act of 27th February, 1819.....	70,000 00
	<hr/>
	120,000 00
With a proviso that the entire Capitol should not cost more than .....	\$120,000 00
The act of 18th March, 1820, appropriated.....	15,000 00
	<hr/>
The entire cost of Capitol proper.....	135,000 00

The architect and contractor for the building of the Capitol, was Stephen Hill. The work was executed in a substantial style, with very little ornament, probably in exact accordance with the taste of that day. The public offices, I believe, were completed for occupancy on the first of October, 1812. The corner stone of the Capitol proper was laid by Gov. Findlay on 31st May, 1819. The legislative halls were first occupied by the Senate and House on January 2, 1822. I have before me a programme of the proceedings of that day, showing a grand procession, in which the architect and his workmen, the clergy, the Governor and heads of departments, the Speakers, members and officers of the Senate and House of Representatives, judges, civil authorities and citizens of Harrisburg generally, took part in the proceedings.

By an act of 30th March, 1821, \$15,000 was appropriated for furnishing. The old Arsenal, about being removed, cost \$12,000. The Executive Department for some twenty years, occupied the room now used by the Adjutant General. The State Library, until about eight years since, occupied the rooms now used by the School Department. The grounds originally inclosed, were about the M'Clay purchase. The whole of the public square was not inclosed with the iron fence, until about 1854 or 1855. It is difficult to separate, exactly, the permanent improvements from those of a mere transient character. The following figures are not intended to include the

salaries paid to the Superintendent and watchmen of the public grounds, or the Harrisburg gas and water companies for supply of water and gas.

The amount expended on what I regard as permanent improvements, is as follows :

From 1823 to 1843.....	\$25,807 73
From 1843 to 1853.....	16,250 60
From 1853 to 1863.....	35,984 00
From 1863 to 1873.....	46,975 00
	<hr/>
	125,017 33
	<hr/>

Until about 1857 the State owned no Executive mansion. At that time a house was purchased for the Executive at a cost of about \$10,000. About five years thereafter this was exchanged for the present Executive mansion, the State paying ten thousand and the city or citizens of Harrisburg paying twenty thousand dollars. The building has since been about doubled in its capacity at a cost to the State, as near as I can ascertain, of about \$44,000. The extension of the Capitol for the Library and committee rooms was authorized by act of 1864. The expenditure as near as I can ascertain for the extension, was \$88,000, and for furnishing the same about \$25,000. The extension of the western wing and the improvements in the Executive and Treasury Departments, during 1873-4, I have not been able to ascertain, probably about \$20,000. The last Legislature ordered the removal of the old arsenal and the purchase of ground and the erection of a new one for which \$35,000 was appropriated. It also ordered the enlargement of the Capitol to accommodate the Legislature as fixed by the new Constitution. In the progress of that work it was found that portions of the old timbers were decayed; and hence an over-hauling of the Capitol building is in progress. By the time the whole is closed, I should think \$40,000 would be a reasonable estimate of the expense. An account current by the Commonwealth of its whole expenditure would, if I am right, stand as follows :

Fifteen acres of ground .....	\$52,000 00
The eastern and western wings of Capitol.....	118,300 00
The Capitol proper and furnishing.....	150,000 00
The old and new arsenals.....	47,000 00
The Executive mansion .....	64,000 00
The Library extension and furniture.....	113,000 00
The present enlargement (estimated,).....	40,000 00
Grading, fencing, improvements of different kinds for fifty- two years .....	125,017 00
	<hr/>
	709,317 00
	<hr/>

## THE GRAVE OF WILLIAM PENN.

I have just read Col. Forney's letter in which he tells of the adventures of a party of Pennsylvanians in search of the grave of our great founder. It is not creditable to the intelligence of the English agriculturists living in sight of the once famous graveyard that contains the remains of our great founder, and more especially of an Englishman so renowned in his generation that their own Government has for nearly a century been paying his descendants an annuity of four thousand pounds sterling annually, that they should be unable to point out his last resting place. My younger readers may perhaps be benefited by a brief sketch of our great founder.

His father, Admiral Penn, was one of the most famous of old England's naval heroes. To liquidate a debt of £16,000 due the Admiral for services and advances to his country, the English monarch, Charles II, granted in 1681 to his son the charter for 28,000,000 of acres, constituting the State of Pennsylvania.

William Penn had adopted the religious principles of the Quakers, and primarily sought a home for his persecuted brethren. Such a grant was an easy mode for an English monarch, like Charles, to pay an old debt to a renowned naval hero, and the motive for seeking and accepting it on part of William Penn was worthy of the highest commendation. But the transaction itself was, in its very essence, inconsistent with every principle of English liberty, even as understood two hundred years ago. Nothing but the unprecedented moderation and wisdom of William Penn ever kept it from being an untold calamity to our good old Commonwealth. Ninety-nine hundredths of the enormous powers vested in him by this feudal charter were in his frame of government, and by his Colonial Constitution renounced and recognized by him as belonging to the people as their inherent rights; and even the remnant not abandoned only kept him and his children after him in an almost constant contest with the representatives of the people, until the revolution of 1776 ended the whole.

William Penn, as the founder of Pennsylvania, certainly acted magnanimously in all his transactions with the colonists, and displayed an amount of far-seeing sagacity and statesmanship fully one hundred years in advance of the age in which he lived. History has chiefly noticed him as a religious reformer, in an age fruitful of such, many of whom were more successful in that respect than himself. I maintain that his greatest achievement was in the founding of civil institutions for his infant colony, so wise, so liberal, so far in advance of the age in which he lived that after nearly two hundred years we find so little to reject.

He was human, and of course he erred. Whenever he referred to his charter and the enormous feudal rights which it conveyed he was led



astray ; but when distrusting all these he turned to his Bible, (in which he alone was deeply learned,) his almost unerring instincts brought him to the conclusions embodied in his frame of government and Constitution. And yet this useful life was sadly clouded at its close. Few of the cherished aspirations of his manhood were realized. To the great misfortune of himself and his colony his cherished purpose of making Pennsylvania his permanent home was never accomplished. Its legislative Assembly, three-fourths of the time, acted in opposition to his wishes. His revenues from his colony came in slowly ; his expenditures at home were heavy ; his English steward proved false ; his creditors became impatient, and he was confined for months in a debtor's apartment. The generosity of his friends secured his discharge, only to find that these accumulated misfortunes had brought on an attack of apoplexy, from which he never recovered. For seven years he lived lost to the world, and only deriving enjoyment from religious exercises. And now it seems that his final resting place can only be found after hours of diligent search. Col. Forney thus records his attempts :

"And yet there was not a trace in all this splendor of William Penn ! His name had been confounded with his Church of England kindred ; but I saw that he was regarded as the founder of the chief mansion, and even as the man who had erected the monument to Gray ! At length I ventured to ask : "Can you tell me of a place called Jordans?" Nobody knew. Finally Mr. Simpson, the intelligent manager of the estate, thought we could find it by driving over to Beaconsfield, about eight miles off, and so directed, we drove through the odorous lanes of beeches to the village famous as the country residence of Mr. Disraeli, the present Prime Minister of England, originally his late wife's property, and now his own. It seems quite extensive, and the house is evidently one of the oldest and best. But what a sleepy village ! Broad, clean streets, yet no signs of thrift or work ; all dull and cheerless. Here we stopped to have our horse shod ; but nobody could tell us about "Jordans ;" nobody had heard of William Penn ; even the driver, after going a mile further, confessed that he had no clue to it. Could we have passed it ? "What is that ?" I said to Colonel Muter, pointing to a small field or lot, with a few tombstones shining white through the beeches. "That is evidently a family graveyard," said my friend, leaping out to prove it, and running down a narrow lane to the gate, he exclaimed : "Here it is !" We followed to find "Jordans," and a more secluded and desolate spot you could not conceive. The brick Quaker meeting-house was shut, and as we looked in through the dirty windows we found a dreary silence, hardly relieved by vacant benches. The old woman who lived in the front rooms was out, and there was nobody to talk.

to us but the few white headstones in the adjacent lot; and this is what they said:

*First Row.*—Five stones over five graves: On the first was "William Penn, 1718, and Hannah Penn, 1726;" on the second, "Gulielma Maria Penn, 1689;" on the third, "Mary Pennington, 1682;" on the fourth, "Isaac Pennington, 1679;" on the fifth, "Isaac Rule, 1765," and directly across the path, opposite to "William Penn and Hannah Penn," was a stone marked "Five Children of William Penn," placed at the head of the first of five small graves. On the row behind William Penn and his first and second wives, Hannah and Guli, were five other headstones, marked successively: "Letitia Penn," (no date;) "Springett Penn, 1690;" "Mary Frame," (no date;) "John Pennington, 1710;" "Mary Elwood, 1708;" "Thomas, 1713;" "William Masterman, 1848, Lydia Masterman." It was evident that these stones had been put there recently, and that the graves had all been raised. From the local history I extract the following note, which partially sustains this view. The place is far from being as picturesque as the writer paints it; indeed it would be altogether depressing but for its grove of beautiful beeches:

"The hamlet of Jordans, noted as the burial places of William Penn and several of the earlier members of the Society of Friends, forms a triangle with the two villages of Chalfont St. Giles and Chalfont St. Peter, and is distant about two miles from each. Here, in a spot remarkable for the beauty of its situation, is a little meeting-house belonging to the Society of Friends, surrounded by a verdant graveyard. In 1671 the land was purchased and appropriated for a burial ground, and the meeting-house appears to have been built in 1687-8, for, according to a deed belonging to the estate, the land and meeting-house were conveyed to certain trustees in 1688, when it was described as the new built house and tenements called "New Jordans." From another deed we learn that in 1748 there was a little more land added to the upper end of the grave land, given by Samuel Vandervaal for a burial place for himself and family. This remains to the present day separated from the rest of the ground. The monthly meetings of the Society were held at Hunger Hill from 1670 to 1727, that house during the greater portion of the time being in the occupation of Thomas Elwood."

Jordans Friends' Meeting-house is a plain brick building, with a tiled roof and latticed windows. In the interior it is panelled with oak. There is a good-sized cottage adjoining it, the principal chamber of which was evidently used in former times as a gallery in times of over-crowded meetings, as it communicates with the meeting-house by means of shutters. Attached to the back is a stable for twenty horses. The situation is peculiarly picturesque, and sequestered in a dell surrounded by beech woods.

The burial-ground is nearly full, but only a few of the graves can be identified. These are tenanted by William Penn, and five of his children, who died young, Isaac, Mary, and John Pennington, Thomas and Mary Ellwood, Mary Frame and Joseph Rule. In the piece of ground above alluded to there is a vault wherein Samuel Vandervaal and his wife are interred. There is no notice to be found as to when the meetings for worship were discontinued at Jordans, but the last time the place was mentioned as sending representatives to the Monthly Meetings is in 1787; so in all probability it was at that date. The author of the "Shrines of Bucks," writing of his visit to the grave of Penn, says; "Entering the grave-yard we found a spot where a number of little mounds marked the resting-places of Penn and his family. Here no monumental marble, or even a simple headstone, marks the spot where the founder of Pennsylvania found at last that rest and freedom from the persecution he had experienced in his life-time. The fifth mound from the doorway of the little chapel was the one beneath which, and between his two wives, he was lowly laid. Jordans has not been inaptly styled the 'Westminster Abbey of the Friends.'"

As we walked among these solitary mounds, I noticed two men in an adjoining orchard picking apples. "Do you know anything about this place?" "No, except that it is a Quaker grave-yard, and that the Quakers hold meetings in the brick building twice a year."

I never supposed that my experience would be so full of interest; nor, indeed, that the grave of William Penn would be found in a spot so obscure, or that his name would be forgotten in the very neighborhood where he lived and died. I am not without hope that the friends of Philadelphia will take steps to remove the remains of their greatest leader, to the State that bears his name, and to the city that he founded in 1682. There is no place in the world so fitting as Fairmount Park, and no time more appropriate for the ceremony than the Centennial year. In any case, what I have written may quicken discussion and inquiry. The whole story of William Penn is the romance of truth, and there is not a region in the globe in which it is so well illustrated, as in the forty miles around Philadelphia, including part of New Jersey and Delaware.

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## THE NEW GEOLOGICAL SURVEY OF PENNSYLVANIA.

The last Legislature, by act of 14th of May, 1874, authorized the appointment of commissioners to organize and superintend a geological survey of Pennsylvania. This commission consists of the Governor, *ex officio* president; James M'Farlane, Bradford county; Daniel J. Morrell, Johnstown;



Henry W. Oliver, Pittsburg; Samuel Q. Brown, Venango; Henry M'Cormick, Harrisburg; Henry S. Eckert, Reading; Ario Pardee, Carbon; Robert B. Wilson, Clearfield; William A. Ingham and J. P. Pearse, Philadelphia. J. P. Lesley, an assistant of Rogers in the former survey, was appointed chief geologist. Some of the members of this Commission have requested me to prepare a sketch of the doing of the former survey for my report.

Pennsylvania, although her mineral wealth is nearly equal to that of all the other States, was not the first to organize a geological survey. Massachusetts lead off by her report published about 1841 in two large volumes, and followed shortly thereafter with three other volumes upon the reptiles, fishes, birds, quadrupeds, &c., &c., of that State. New York followed with her exhaustive survey, including, in all, nineteen volumes published from 1841 to 1852. These included, geology, four volumes; zoology, five volumes; palentology, two volumes; botany, two volumes; mineralogy, one volume; and agriculture, five volumes. That State has also erected a large building designed to preserve the specimens collected by her survey and any others that subsequently may be procured from any section, thus to illustrate fully all departments of physical science. Our own Legislature followed the example set her by Massachusetts and New York, and by act of 29th March, 1836, authorized a geological survey of our State. The magnitude of the undertaking was not realized, as that act only contemplated the labor of one chief and two assistant geologists and a chemist. The appropriation was only \$6,400 a year for five years. Some additional aid was given, and the expenditure for field exploration was as follows:

First field exploration and salaries incurred in preparing materials for report—1836, \$2,700 00; 1837, \$6,500 00; 1838, \$12,000 00; 1839, \$15,991 27; 1840, \$17,800 00; 1841, \$12,674 93; 1842, \$5,541 67; 1843, \$1,250 00. Total, \$74,457 87.

The consequences of the panic of 1837 were severely felt in our State, resulting in 1841–2–3 in a failure to pay the semi-annual interest upon our public debt. The result was that appropriations, unless indispensably necessary, were cut off. No appropriation for continuing this geological survey was made for some years, and the material on hand remained unpublished.

It was not until at my own motion as a member of the House at the session of 1851, a joint committee of both Houses was appointed to examine and report upon this matter. That report was a very elaborate one, covering fourteen pages of the Journal of the House of Representatives. (See vol. 2, page 131 to 144 inclusive.) The committee also reported a bill, which finally passed. (See act 14th April, 1851.) This act contemplated a further revision of the work done and the preparation of the final report

by Prof. Rogers, and to carry out the same appropriated thirty-two thousand dollars in four annual payments.

A contract was made with a Philadelphia publishing house unfortunately embarrassed at the time, resulting shortly thereafter in insolvency. The contract was probably an unfortunate one for the house, certainly the Commonwealth lost four thousand dollars paid on account.

The final arrangements for the publication were not made until by the authority of the act of May 3, 1855. In the meantime Prof. Rogers had been appointed professor of geology in the University of Edinburgh, Scotland. He represented that his supervision of the work was indispensable and that the work could be more cheaply printed in Europe than in this country. The Legislature therefore permitted him, on giving security, to have the entire control of its publication. He, in turn, furnished one thousand copies to the Legislature for circulation. The appropriation made by the act of 1855, in connection with the former one of 1851, amounted to \$42,750, as follows: 1852, \$8,000; 1853, \$8,000; 1854, \$7,750; 1855, \$19,000; total, \$42,750. The entire cost to the Commonwealth was therefore \$117,207 87; of this, however, \$4,000 was lost by the failure of the Philadelphia publishing house, and the actual expenditure for the survey was \$113,207 87. The work is in two very large volumes, the printed matter filling 1631 pages, and a third volume of maps, sections, &c. The whole publication was done under the immediate supervision of Professor Rogers, and the mechanical execution is creditable to the publishers. I believe some two or three hundred copies of this edition (the property of the widow of Professor Rogers) are still on hand and can be procured from her agents, J. B. Lippincott & Co., Philadelphia. The survey was ably conducted. The volumes, as published, are much better adapted to the comprehension of the scientific than of the popular reader. This is a difficulty, however, which few authors have overcome, to meet the expectations of the scientific and to be equally comprehensible by the mass not familiar with technical terms.

## POPULATION OF OUR WORLD.

The following abstracts are chiefly taken from "Population of the Earth," by Behm and Wagner Gotha, 1874. These latest and most carefully collected returns show that the aggregate of mankind is nearly three hundred millions in excess of what has usually been accredited to our earth's surface. We have therefore inserted these latest returns of the number of the human race for future reference and comparison with our own census.

	Area.	Population.	To sq. mile.
Europe.....	3,790,000	301,614,200	80
Asia.....	16,668,900	794,004,800	48
Africa.....	11,630,400	192,520,200	18
Oceanica.....	3,424,200	4,365,300	1
America.....	15,879,400	84,640,700	6
Total.....	51,392,900	1,377,145,200	27

The details for the Continent of Europe and the islands adjacent to it, with the year in which the census was taken, are given in the following statement:—

	Census.	Area.	Population.	To sq. mile.
Germany.....	1871	208,556	41,058,139	197
Austro-Hungary.....	1869	240,276	35,904,435	149
Lichtenstein.....	1867	62	8,320	134
Switzerland.....	1870	15,987	2,669,147	147
Denmark.....	1870	14,749	1,784,741	121
Iceland and Faroe.....	1870	40,234	79,755	2
Sweden.....	1870	170,541	4,168,525	24
Norway.....	1870	122,243	1,753,000	14
Netherlands.....	1870	12,676	3,688,377	291
Luxemburg.....	1871	998	197,504	20
Belgium.....	1869	11,370	5,021,336	442
Great Britain and Ireland.....	1871	121,078	31,817,108	263
British dependencies.....	1871	145	160,369	1,037
France.....	1872	204,031	36,102,621	177
Spain.....	1867	192,908	16,377,844	85
Canary Islands.....	1867	2,807	276,036	98
Portugal.....	1868	34,491	3,995,153	116
Azores and Madeira.....	1868	1,311	365,821	279
Andarra.....	1868	149	12,000	80
Italy.....	1871	114,261	26,796,253	234
Turkey.....	1871	133,955	10,510,000	78
Roumania.....	1871	46,696	4,500,000	96
Servia.....	1871	16,812	1,319,283	78
Montenegro.....	1871	1,700	100,000	50
Russia.....	1867	1,923,820	69,364,541	36
Finland.....	1867	138,788	1,843,253	13
Greece.....	1870	19,347	1,457,894	70
Total.....		3,790,011	301,614,227	80

The British dependencies included in the above statement are those within the limits of Europe only—the Islands of Heligoland and Malta, and Gibraltar.



The following gives the areas and population of the leading Asiatic nations:—

	Census.	Area.	Population.	To sq. mile.
Russia.....	1867	5,942,806	10,537,513	2
Turkey.....	1871	672,315	16,463,000	24
Arabia.....		1,025,732	4,000,000	4
Persia.....		635,769	5,000,000	8
China.....		3,740,726	446,500,000	119
Japan.....	1870	149,354	34,785,321	233
Hindustan and British Burmah.....	1869	1,558,280	206,225,580	132
East India Islands.....		799,118	32,620,000	41

The principal islands of the Pacific Ocean are given in the following:—

	Area.	Population.	To sq. mile.
Australia.....	2,944,341	1,565,294	0.5
Tasmania.....	26,207	99,328	4.0
New Zealand.....	106,227	294,028	3.0
New Guinea.....	274,435	1,000,000	4.0
Sandwich Islands.....	7,630	62,959	8.0

There are so few well defined geographical divisions in Africa, that the following embrace all of interest; the population of Algeria being according to French census of 1872, and that of the other countries named being estimated:—

	Area.	Population.	To sq. mile.
Morocco.....	259,508	2,750,000	11
Algeria.....	258,234	2,921,146	11
Tunis.....	45,702	2,000,000	44
Tripoli, etc.....	344,312	750,000	2
Egypt.....	658,902	8,000,000	12
Cape Colony.....	220,451	682,600	3
Madagascar.....	227,685	5,000,000	22

The figures for the different divisions of North America and the neighboring islands, are as follows, the population of the United States being given according to the census of 1870, and that of Mexico according to the census of 1871:—

	Area.	Population.	To sq. mile.
Greenland.....	759,585	10,000	.....
British America.....	3,523,092	3,888,577	1
United States.....	3,603,884	38,925,598	11
Mexico.....	761,442	9,176,082	12
Gautemala.....	40,766	1,180,000	29
San Salvador.....	7,323	600,000	82
Nicaragua.....	58,153	350,000	6
Costa Rica.....	21,488	165,000	8
Honduras.....	46,078	350,000	8
British Honduras.....	13,496	25,635	2
Carried forward.....	8,835,307	54,670,872	159

	Area.	Population.	To sq. mile.
Brought forward.....	8, 835, 307	54, 670, 872	159
Bermudas.....	24	11, 796	491
St. Pierre and Miquelon Hayti.....	81	3, 971	49
Hayti.....	10, 202	572, 000	57
San Domingo.....	17, 822	136, 500	8
Spanish Islands.....	49, 465	2, 068, 870	42
British Islands.....	12, 632	1, 054, 116	83
French Islands.....	1, 016	306, 244	301
Dutch Islands.....	368	35, 482	96
Danish Islands.....	118	37, 821	321
Swedish Islands.....	8	2, 898	362
Total.....	8, 927, 043	58, 900, 570	7

The countries of South America make the following showing ; the population of the Argentine Republic being given according to the census of 1869 :

	Area.	Population.	To sq. mile.
Brazil.....	3, 252, 050	10, 000, 000	3
French Guiana.....	30, 068	25, 151	1
Dutch.....do.....	59, 780	59, 885	1
British.....do.....	99, 897	152, 932	2
Venezuela.....	368, 128	1, 500, 000	4
Colombia.....	357, 050	3, 000, 000	.....
Ecuador.....	221, 815	1, 300, 000	6
Peru.....	510, 292	2, 500, 000	5
Bolivia.....	535, 708	2, 000, 000	4
Chili.....	132, 575	2, 000, 000	15
Argentine Republic.....	871, 588	1, 877, 490	2
Paraguay.....	63, 770	1, 000, 000	16
Uruguay.....	66, 700	300, 000	5
Patagonia and Terra del Fuego.....	376, 350	24, 000	.....
Islands.....	6, 525	686	.....
Total.....	6, 952, 356	25, 740, 140	4

Another statement of interest, in this connection, shows the area and population of the foreign possessions of the different European powers, which are as follows :—

	Area.	Population.		Area.	Population.
Great Britain ..	7, 924, 148	171, 610, 000	Portugal.....	739, 703	3, 873, 000
Turkey.....	1, 721, 232	27, 213, 000	Denmark.....	87, 094	127, 000
Holland.....	674, 873	23, 433, 000	Sweden.....	8	2, 900
Russia.....	5, 942, 806	10, 730, 000			
Spain.....	117, 138	6, 419, 000			
France,.....	457, 515	6, 240, 000	Total.....	17, 664, 521	249, 647, 900

It is thus seen that the possessions of nine European powers outside of Europe, embrace nearly five times as large an area as the whole of Europe, while the population of this enormous territory is barely equal to five-sixths of that of Europe. The foreign dependencies of all the European States, included in the last statement, exceed the ruling power in territory, except Spain and Sweden ; but Great Britain, Turkey and Holland, are the only European States whose dependencies have a greater population than themselves.

TABLE showing the population of the United States by States and Territories.

STATES.	1790.	1800.	1810.	1820.	1830.	1840.	1850.	1860.	1870.
Alabama									996,992
Arkansas				127,901	309,527	590,756	771,623	964,201	484,471
California				14,255	30,888	97,574	209,887	435,450	560,247
Connecticut	237,946	251,002	261,942	275,148	287,675	309,978	370,792	400,147	537,454
Delaware	59,096	64,273	72,674	72,749	76,748	78,085	91,532	112,216	125,015
Florida					34,730	54,477	87,445	140,424	187,748
Georgia	82,548	162,686	252,433	340,985	516,823	691,392	906,185	1,057,286	1,184,109
Illinois			12,282	65,162	157,445	476,183	851,470	1,711,951	2,530,891
Indiana		5,641	24,520	147,178	343,031	685,866	988,416	1,350,428	1,880,637
Iowa						43,112	192,214	674,913	1,194,020
Kansas								107,206	364,399
Kentucky	73,677	220,955	406,511	564,135	687,917	779,828	982,405	1,155,684	1,321,011
Louisiana			76,566	152,933	215,739	352,411	517,762	708,002	726,915
Maine	96,540	151,719	226,705	298,269	399,455	501,793	583,169	628,279	626,915
Maryland	319,728	341,548	380,546	407,350	447,040	470,019	583,034	687,049	780,894
Massachusetts	378,787	422,845	472,040	523,159	610,408	737,699	994,514	1,231,066	1,457,351
Michigan			4,762	8,765	31,639	212,267	397,654	749,113	1,184,059
Minnesota							6,077	172,023	439,706
Mississippi		8,850	40,352	75,448	136,621	375,651	606,526	791,305	827,922
Missouri			20,845	66,557	140,455	383,702	682,044	1,182,012	1,721,295
Nebraska								28,841	122,933
Nevada								6,857	42,491
New Hampshire	141,885	183,858	214,460	244,022	269,328	284,574	317,976	326,073	318,300
New Jersey	184,139	211,149	245,562	277,426	320,823	373,306	489,555	672,035	906,096
New York	340,120	589,051	959,049	1,372,111	1,918,608	2,428,921	3,097,394	3,880,735	4,382,759
North Carolina	398,751	478,103	555,500	638,829	737,987	753,419	809,039	992,622	1,071,361
Ohio		45,365	230,760	581,205	937,903	1,519,467	1,980,329	2,339,511	2,665,260
Oregon							13,294	52,465	90,923
Pennsylvania	434,373	602,365	810,091	1,047,507	1,348,233	1,724,033	2,311,783	2,906,215	3,521,951
Rhode Island	68,825	69,122	76,931	83,015	97,199	108,830	147,545	174,620	217,353
South Carolina	249,073	345,591	415,115	502,741	581,185	594,398	668,507	703,708	705,006
Tennessee	35,691	105,602	261,727	422,771	681,904	829,210	1,002,717	1,109,801	1,258,520
Texas							212,592	604,215	818,579
Vermont	85,425	154,465	217,895	235,906	280,652	291,948	314,120	315,098	330,551
Virginia	747,610	880,200	974,600	1,065,116	1,211,405	1,239,797	1,421,661	1,596,318	1,255,163



TABLE SHOWING POPULATION—Continued.

STATES.	1790.	1800.	1810.	1820.	1830.	1840.	1850.	1860.	1870.
West Virginia.....									442,014
Wisconsin.....						30,945	305,391	775,881	1,054,670
Total .....	3,929,214	5,308,483	7,239,881	9,633,822	12,866,020	17,069,453	23,191,876	31,443,321	38,558,371
TERRITORIES.									
Arizona.....									9,658
Colorado.....								34,277	39,864
Dakota.....								4,837	14,181
District of Columbia.....		14,093	24,023	33,039	39,834	43,712	51,687	75,080	131,700
Idaho.....									14,999
Montana.....									20,595
New Mexico.....									91,874
Utah.....							61,547	93,516	86,786
Washington.....							11,380	40,273	23,955
Wyoming.....								11,594	9,118
Total .....		14,093	24,023	33,039	39,834	43,712	124,614	259,577	442,730

## POPULATION OF PENNSYLVANIA BY COUNTIES—1790 TO 1870.

COUNTIES.	1790.	1800.	1810.	1820.	1830.	1840.	1850.	1860.	1870.
Adams.....		13,172	15,152	19,370	21,379	23,044	25,981	28,006	30,315
Allegheny.....	10,309	15,087	25,317	34,921	50,552	81,235	138,290	178,831	262,204
Armstrong.....		2,399	6,143	10,324	17,701	28,365	29,560	35,797	43,382
Beaver.....		5,776	12,168	15,340	24,183	29,368	26,689	29,140	36,148
Bedford.....	13,124	12,039	15,746	20,248	24,502	29,335	23,052	26,736	29,635
Berks.....	30,179	32,407	43,146	46,275	53,152	64,569	77,129	93,818	106,701
Blair.....				11,554	19,746	32,769	21,777	27,829	38,051
Bradford.....			7,346	10,193	14,581	22,378	42,831	48,734	53,204
Butler.....	25,401	27,496	32,371	37,842	45,745	48,107	30,346	35,594	36,510
Bucks.....			2,117	3,287	7,076	11,256	56,091	63,578	64,336
Cambria.....							17,773	29,155	36,569
Cameron.....									4,273
Carbon.....		13,609	10,681	13,796	18,879	20,492	15,686	21,033	28,144
Centre.....	7,562	32,093	39,596	44,451	50,910	57,515	23,355	27,000	34,418
Chester.....	27,937						66,438	74,578	77,805
Clarion.....			875	2,342	4,803	7,831	23,565	24,988	26,537
Clearfield.....							12,586	18,759	25,741
Clinton.....				17,621	20,059	24,267	11,207	17,723	23,211
Columbia.....				9,397	16,030	31,724	17,710	25,065	28,766
Crawford.....		2,346	6,178	9,397	16,030	31,724	37,849	48,755	63,832
Cumberland.....	18,243	25,386	26,757	23,606	29,226	30,953	34,327	40,098	43,912
Dauphin.....	18,177	22,270	31,883	21,653	25,243	30,118	35,754	46,756	60,740
Delaware.....	9,483	12,809	14,734	14,810	17,323	19,791	24,679	30,597	39,403
Elk.....							3,531	5,915	8,488
Erie.....		1,468	3,758	8,541	17,041	31,344	38,742	49,432	65,973
Payette.....	13,325	20,159	24,714	27,285	20,172	33,574	39,112	39,909	43,284
Franklin.....	15,655	19,638	23,083	31,892	35,037	37,793	33,904	42,126	45,365
Fulton.....							7,567	9,131	9,360
Forest.....								898	4,010
Greene.....		8,605	12,544	15,554	18,028	19,147	22,136	24,343	25,887
Huntingdon.....	7,565	13,008	14,778	20,139	27,145	35,484	24,786	28,100	31,251
Indiana.....			6,214	8,882	14,252	20,782	27,170	33,687	36,138
Jefferson.....			161	561	2,025	7,253	13,518	18,270	21,656
Juniata.....						11,080	13,029	16,986	17,390
Lancaster.....	36,147	43,403	53,927	67,975	76,631	84,203	98,944	116,314	121,344
Lawrence.....							21,079	22,999	27,298
Lebanon.....				16,975	20,557	21,872	26,071	31,831	34,086

## POPULATION OF PENNSYLVANIA—CONTINUED.

COUNTIES.	1790.	1800.	1810.	1820.	1830.	1840.	1850.	1860.	1870.
Lehigh.....				18, 895	22, 256	25, 787	32, 479	43, 753	56, 796
Luzerne.....	4, 904	12, 839	18, 109	20, 027	27, 379	44, 006	56, 072	90, 244	160, 915
Lycoming.....		5, 414	11, 006	13, 517	17, 636	22, 649	26, 257	37, 399	47, 626
Mc Kean.....			142	728	1, 439	2, 975	5, 254	8, 859	8, 825
Mercer.....		3, 228	8, 277	11, 681	19, 729	32, 873	33, 172	36, 856	49, 977
Mifflin.....			12, 132	16, 618	21, 690	13, 092	14, 980	16, 340	17, 508
Monroe.....						9, 879	13, 270	16, 758	18, 362
Montgomery.....	22, 929	24, 150	29, 703	35, 793	39, 406	47, 241	58, 291	70, 500	81, 612
Montour.....							13, 239	13, 053	15, 344
Northampton.....	24, 250	30, 062	38, 145	31, 765	39, 482	40, 996	40, 235	47, 904	61, 432
Northumberland.....	17, 161	27, 797	36, 327	15, 424	18, 133	20, 027	23, 272	28, 922	41, 444
Perry.....				11, 284	14, 261	17, 096	20, 088	22, 793	25, 447
Philadelphia.....	54, 391	81, 009	111, 210	135, 637	188, 797	258, 037	408, 762	565, 529	674, 022
Pike.....				2, 890	4, 843	3, 832	5, 881	7, 155	8, 436
Potter.....			29	186	1, 265	3, 371	6, 048	11, 470	11, 265
Schuylkill.....				11, 311	20, 744	29, 053	60, 713	89, 510	116, 428
Somerset.....		10, 188	11, 284	13, 974	17, 762	19, 650	24, 416	26, 778	28, 226
Snyder.....								15, 035	15, 606
Sullivan.....							3, 694	5, 637	6, 191
Susquehanna.....				9, 960	16, 787	21, 195	28, 688	36, 267	37, 523
Tioga.....			1, 687	4, 021	8, 978	15, 498	23, 987	31, 044	35, 097
Union.....				18, 619	20, 795	22, 787	26, 083	14, 145	15, 565
Venango.....		1, 130	3, 060	4, 915	9, 470	17, 900	18, 310	25, 043	47, 925
Warren.....		233	827	1, 976	4, 697	9, 278	13, 671	19, 190	23, 897
Washington.....	23, 866	28, 298	36, 289	40, 038	42, 784	41, 279	44, 939	46, 805	48, 483
Wayne.....		2, 562	4, 125	4, 127	7, 663	11, 848	21, 890	32, 239	33, 188
Westmoreland.....	16, 018	22, 726	26, 392	30, 540	38, 400	42, 699	51, 726	53, 736	58, 719
Wyo ming.....							10, 655	12, 540	14, 585
York.....	37, 747	25, 643	31, 958	38, 747	42, 859	47, 010	57, 450	68, 200	76, 134
Totals.....	434, 373	602, 365	810, 091	1, 047, 507	1, 348, 233	1, 724, 033	2, 311, 786	2, 906, 215	3, 521, 951



*POPULATION of the principal cities and towns of the State.*

	1850.	1860.	1870.	Per cent. of increase, 1860 to 1870.
Philadelphia .....	408,762	565,529	674,022	19.19
Pittsburg .....	46,601	49,217	(a) 121,977	147.83
Allegheny .....	21,262	28,702	(b) 58,596	104.14
Scranton .....		9,223	35,092	280.50
Reading .....	15,743	23,162	33,930	46.48
Harrisburg .....	7,834	13,405	23,104	72.35
Lancaster .....	12,369	17,603	20,233	14.94
Erie .....	5,858	9,419	19,646	108.57
Wilkesbarre .....	2,723	4,253	(c) 17,264	305.92
Williamsport .....	1,615	5,664	16,030	183.01
Allentown .....	3,779	8,025	13,884	72.95
Pottsville .....	7,515	9,444	12,384	31.13
York .....	6,863	8,605	11,003	27.86
Easton .....	7,250	8,944	10,987	22.84
Norristown .....	6,024	8,848	10,753	21.52
Altoona .....		3,591	10,610	195.46
Chester .....	1,667	4,631	9,485	104.81
Titusville .....	243	438	8,639	1872.30
Danville .....	3,302	6,385	8,436	32.12
Meadville .....	2,578	3,702	7,103	91.86
Lock Haven .....	830	3,349	6,986	108.59
Corry .....			6,809	
Pittston .....		3,682	6,760	83.59
Lebanon .....	2,184	4,449	6,727	51.22
Carlisle .....	4,581	5,664	6,650	17.40
Columbia .....	4,140	5,007	6,461	39.03
Carbondale .....	4,945	5,575	6,393	14.67
Chambersburg .....	3,335	5,255	6,308	20.03
New Castle .....	1,614	1,882	6,164	227.52
Johnstown .....	1,269	4,185	6,028	44.03
West Chester .....	3,172	4,757	5,630	18.37
Phoenixville .....	2,670	4,886	5,292	8.30

(a) Since the census of 1870, fourteen wards have been added to Pittsburg, with a population of 35,723, without which the population would be 86,076, and percentage of increase 74.89.

(b) Two wards, with a population of 5,416, added since census of 1870, population without, 53,180 and percentage of increase 85.28.

(c) Wilkesbarre incorporated into a city and the township of Wilkesbarre added, with a population of 7,090 since census of 1870, without which, population would be 10,174, and percentage of increase 139.21.



## WHICH IS TO BE THE EMPIRE STATE?

The annexed official tables show the movements of population in New York and Pennsylvania for eighty years. During the first forty years New York was constantly gaining in the race, but during the last forty years our State has, at each decennial census, been closing up the gap. The same rate of progress will, at the closing of the present century, leave them side by side. But the elements of increase are decidedly in favor of Pennsylvania. Her great gain is in her mining and manufacturing districts. New York has no elements to compete with these. Pennsylvania must, each decennial census, gain upon the ratio of the last ten years, and the close of the nineteenth century will show her not only the Keystone of the Federal arch, but also the Empire State of the Union.

New York State population from 1790 to 1870, actual rate of increase ; also estimated increase from 1870 to 1900, at per cent. of increase of 1870 :

CENSUS OF NEW YORK.	Population.	Increase.	Per ct. of incr.
1790.....	340,120	.....	.....
1800.....	589,051	248,931	73.
1810.....	959,049	369,998	38.
1820.....	1,372,111	413,062	43.
1830.....	1,918,608	546,497	39.75
1840.....	2,428,921	510,313	26.50
1850.....	3,097,394	668,473	27.50
1860.....	3,880,735	783,341	25.
1870.....	4,382,759	502,024	12.93
1880.....	4,949,449	566,690	12.93
1890.....	5,589,012	639,563	12.93
1900.....	6,311,671	722,659	12.93

Pennsylvania State population from 1790 to 1870, &c. :—

CENSUS OF PENNSYLVANIA.	Population.	Increase.	Per ct. of incr.
1790.....	434,373	.....	.....
1800.....	602,365	167,992	38.70
1810.....	810,091	207,726	34.48
1820.....	1,047,507	237,416	29.43
1830.....	1,348,233	300,726	28.70
1840.....	1,724,033	375,800	27.87
1850.....	2,311,786	587,753	34.
1860.....	2,906,215	594,429	25.71
1870.....	3,521,951	615,736	21.19
1880.....	4,268,252	746,301	21.19
1890.....	5,172,694	904,442	21.19
1900.....	6,268,787	1,096,093	21.19

Pennsylvania wanting only an addition of 42,884 in the year 1900, to equal the population of New York State.



## ORGANIZATION OF COUNTIES.

Names and date, day, month and year, of the erection of the several counties of the Commonwealth of Pennsylvania, and the territory from which they were formed ; the three first counties which were formed, to wit :—Philadelphia, Bucks and Chester, were established at the first settlement of the Province of Pennsylvania, and formed the only original counties of all that territory of which the now great State is formed, comprised of sixty-six counties, as follows, viz :

1. Adams, January 22, 1800, formed of a part of York.
2. Allegheny, September 24, 1788, formed of a part of Westmoreland and Washington.
3. Armstrong, March 12, 1800, formed of a part of Allegheny, Westmoreland and Lycoming.
4. Beaver, March 12, 1800, formed of a part of Allegheny and Washington.
5. Bedford, March 9, 1771, formed of a part of Cumberland.
6. Berks, March 11, 1752, formed of a part of Philadelphia, Chester and Lancaster.
7. Blair, February 26, 1846, formed of a part of Huntingdon and Bedford.
8. Bradford, February 21, 1810, formed of a part of Luzerne and Lycoming.\*
9. Bucks, one of the original counties of the Province.†
10. Butler, March 12, 1800, formed of a part of Allegheny.
11. Cambria, March 20, 1804, formed of a part of Huntingdon, Somerset and Bedford.
12. Cameron, March 29, 1860, formed of a part of Clinton, Elk, M'Kean and Potter.
13. Carbon, March 13, 1843, formed of a part of Northampton and Monroe.
14. Centre, February 13, 1800, formed of a part of Mifflin, Northumberland, Lycoming and Huntingdon.
15. Chester, one of the original counties established at the first settlement of the Province.
16. Clarion, March 11, 1839, formed of a part of Venango and Armstrong.
17. Clearfield, March 26, 1804, formed of a part of Lycoming and Northumberland.

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\*Previous to March 24, 1812, this county was called Ontario, but its name was changed to Bradford on that day.

†Bucks county was one of the three original counties established at the first settlement of the Province of Pennsylvania; the other two being Philadelphia and Chester.—See *Votes of the Assembly*, Vol. 1.

18. Clinton, June 21, 1839, formed of a part of Lycoming and Centre.
19. Columbia, March 22, 1813, formed of a part of Northumberland.
20. Crawford, March 12, 1800, formed of a part of Allegheny.
21. Cumberland, January 27, 1750, formed of a part of Lancaster.
22. Dauphin, March 4, 1785, formed of a part of Lancaster.
23. Delaware, September 26, 1789, formed of a part of Chester.
24. Elk, April 18, 1843, formed of a part of Jefferson, Clearfield and M'Kean.
25. Erie, March 12, 1800, formed of a part of Allegheny.
26. Fayette, September 26, 1783, formed of a part of Westmoreland.
27. Forest, April 11, 1848, formed from a part of Jefferson and Venango.\*
28. Franklin, September 9, 1784, formed from a part of Cumberland.
29. Fulton, April 19, 1850, formed from a part of Bedford.
30. Greene, February 9, 1796, formed from a part of Washington.
31. Huntingdon, September 20, 1787, formed from a part of Bedford.
32. Indiana, March 30, 1803, formed from a part of Westmoreland and Lycoming.
33. Jefferson, March 26, 1804, formed from a part of Lycoming.
34. Juniata, March 2, 1831, formed from a part of Mifflin.
35. Lancaster, May, 10, 1729, formed from a part of Chester.
36. Lawrence, March 25, 1850, formed from a part of Beaver and Mercer.
37. Lebanon, February 16, 1813, formed from a part of Dauphin and Lancaster
38. Lehigh, March 6, 1812, formed from a part of Northampton.
39. Luzerne, September 25, 1786, formed from a part of Northumberland.
40. Lycoming, April 13, 1796, formed from a part of Northumberland.
41. M'Kean, March 20, 1804, formed from a part of Lycoming.
42. Mercer, March 12, 1800, formed from a part of Allegheny.
43. Mifflin, September 19, 1789, formed from a part of Cumberland and Northumberland.
44. Monroe, April 1, 1836, formed from a part of Northampton and Pike.
45. Montgomery, September 10, 1784, formed from a part of Philadelphia.
46. Montour, May 3, 1850, formed from a part of Columbia.
47. Northampton, March 11, 1752, formed from a part of Bucks.
48. Northumberland, March 27, 1772, formed from parts of Lancaster, Cumberland, Berks, Bedford and Northampton.
49. Perry, March 22, 1820, formed from a part of Cumberland.
50. Philadelphia, one of the three original counties established at the first settlement of the Province.

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\*Part of Venango added by act approved October 31, 1866.

51. Pike, March 26, 1814, formed from a part of Wayne.
52. Potter, March 26, 1804, formed from a part of Lycoming.
53. Schuylkill, March 1, 1811, formed from a part of Berks and Northampton.
54. Snyder, March 2, 1855, formed from a part of Union.
55. Somerset, April 17, 1795, formed from a part of Bedford.
56. Sullivan, March 15, 1847, formed from a part of Lycoming.
57. Susquehanna, February 21, 1810, formed from a part of Luzerne.
58. Tioga, March 26, 1804, formed from a part of Lycoming.
59. Union, March 22, 1813, formed from a part of Northumberland.
60. Venango, March 13, 1800, formed from a part of Allegheny and Lycoming.
61. Warren, March 12, 1800, formed from a part of Allegheny and Lycoming.
62. Wayne, March 21, 1798, formed from a part of Northampton.
63. Washington, March, 28, 1781, formed from a part of Westmoreland.
64. Westmoreland, February 26, 1773, formed from a part of Bedford, and in 1785 part of the purchase of 1784 was added thereto.
65. Wyoming, April 4, 1842, formed from a part of Luzerne.
66. York, August 19, 1749, formed from a part of Lancaster.



# AGRICULTURE AND MANUFACTURES.

TABULAR STATEMENT—Showing the number of persons and occupations, in Pennsylvania, at the census of 1870.

	Percentage of each occupat'n,	PERSONS OCCUPIED—AGE AND SEX.					
		Number.	10 to 15.		15 to 60.		60 and over.
			Male.	Female.	Male.	Female.	
Agriculture .....	25.48	260,051	12,294	46	218,247	1,087	146
Professional and personal services .....	27.73	283,000	6,063	6,993	175,800	81,384	1,949
Trade and transportation .....	11.88	121,253	2,376	297	111,180	4,068	174
Manufactures and mining .....	34.91	356,240	8,614	2,304	299,529	35,404	483
Population, ten years and over .....	100.00	2,597,809	249,620	246,823	946,418	959,534	98,934

## LAND—IMPROVED AND UNIMPROVED.

	Acres of im- proved land.	Acres of unim- proved land.	Present value of farms.....
Adams.....	214, 516	58, 509	\$14, 611, 060
Allegheny.....	292, 089	93, 570	56, 448, 818
Armstrong.....	230, 915	126, 155	13, 681, 426
Beaver.....	176, 861	71, 974	14, 198, 713
Bedford.....	197, 250	211, 527	9, 495, 119
Berks.....	374, 560	97, 448	43, 638, 465
Blair.....	98, 285	52, 500	8, 098, 146
Bradford.....	366, 851	226, 464	25, 158, 245
Bucks.....	315, 833	48, 786	40, 289, 213
Butler.....	273, 158	157, 883	18, 230, 848
Cambria.....	93, 438	136, 459	4, 834, 076
Cameron.....	6, 485	62, 777	1, 332, 188
Carbon.....	25, 782	34, 620	1, 484, 210
Centre.....	152, 238	90, 362	13, 565, 198
Chester.....	374, 759	68, 154	46, 737, 688
Clarion.....	162, 747	111, 317	7, 784, 127
Clearfield.....	116, 218	156, 955	5, 931, 360
Clinton.....	54, 852	72, 519	4, 797, 040
Columbia.....	136, 710	68, 445	9, 015, 460
Crawford.....	328, 555	197, 685	21, 905, 661
Cumberland.....	239, 784	49, 758	22, 474, 577
Dauphin.....	172, 586	61, 249	19, 053, 433
Delaware.....	89, 438	11, 316	19, 288, 727
Elk.....	16, 124	28, 739	1, 019, 820
Erie.....	279, 868	134, 889	23, 991, 607
Fayette.....	235, 006	145, 066	18, 250, 958
Forest.....	10, 890	37, 256	619, 398
Franklin.....	265, 517	92, 703	23, 775, 174
Fulton.....	86, 995	117, 902	2, 565, 042
Greene.....	230, 594	107, 748	13, 554, 374
Huntingdon.....	168, 818	186, 076	9, 445, 678
Indiana.....	256, 023	172, 164	12, 945, 069
Jefferson.....	104, 220	135, 722	5, 362, 623
Juniata.....	97, 509	66, 557	6, 351, 175
Lancaster.....	462, 833	76, 858	70, 724, 908
Lawrence.....	148, 509	50, 665	11, 614, 044
Lebanon.....	139, 481	43, 883	19, 016, 808
Lehigh.....	181, 097	39, 217	23, 555, 476
Luzerne.....	194, 115	174, 381	21, 565, 724
Lycoming.....	163, 892	143, 291	11, 212, 366
M'Kean.....	28, 164	50, 689	1, 566, 250
Mercer.....	260, 109	129, 056	22, 048, 299
Mifflin.....	97, 687	60, 763	9, 133, 277
Monroe.....	85, 663	110, 311	4, 459, 114
Montgomery.....	256, 909	27, 877	40, 902, 050
Montour.....	53, 182	16, 483	4, 615, 655
Northampton.....	170, 062	15, 404	20, 991, 169
Northumberland.....	147, 129	46, 452	12, 430, 987
Perry.....	136, 809	126, 225	8, 750, 895
Philadelphia.....	37, 518	2, 786	18, 945, 000
Pike.....	27, 303	88, 459	2, 213, 325
Potter.....	56, 307	111, 727	2, 942, 348
Schuylkill.....	109, 135	75, 318	8, 643, 655
Snyder.....	92, 580	45, 313	5, 769, 403
Somerset.....	249, 615	254, 442	12, 043, 715
Sullivan.....	36, 689	69, 353	1, 658, 109
Susquehanna.....	290, 997	150, 016	16, 707, 011
Tioga.....	187, 305	166, 798	10, 923, 925
Union.....	70, 752	19, 075	7, 891, 977
Venango.....	122, 874	98, 340	7, 211, 006

LAND—IMPROVED AND UNIMPROVED—*Continued.*

	Acres of im- proved land..	Acres of unim- proved land..	Present value of farms.....
Warren.....	83,762	134,508	\$6,976,674
Washington .....	409,863	114,004	39,015,006
Wayne .....	110,718	200,880	8,816,220
Westmoreland.....	342,083	144,014	28,210,826
Wyoming .....	87,953	72,212	6,633,160
York .....	411,341	133,181	36,358,484
	11,515,965	6,478,235	1,043,481,582



TABLE showing the entire annual value of the products of Agriculture by counties,

[The census returns in kind being reduced to each value. To remedy deficiencies of returns in 1870, and the annual increase to 1875, we recommend fifty per cent. to the last table.]

COUNTIES.	Products of farms.....	Home manufac- tures.....	Animals slaugh- tered or sold for slaughter.....	Live stock.....	Dairy products.	Wool.....	All other pro- ducts.....	Entire products of each county.
Adams.....	\$3,820,438	\$2,920	\$498,545	1,722,610	319,240	\$13,148	\$4,567	\$6,381,468
Allegheny.....	4,043,871	69,875	472,794	3,015,224	490,734	154,237	39,382	8,286,117
Armstrong.....	2,507,100	9,632	394,227	1,915,150	323,682	63,034	6,861	5,219,686
Beaver.....	1,700,626	2,487	348,199	1,576,277	318,178	210,953	17,030	4,233,750
Bedford.....	1,906,253	12,667	256,393	1,298,205	152,451	30,352	8,086	3,664,407
Berks.....	16,179,483	10,195	1,263,649	4,544,490	901,761	5,429	12,817	22,917,824
Blair.....	1,447,840	357	187,971	798,164	101,877	9,833	3,643	2,519,685
Bradford.....	4,720,050	20,245	752,712	4,262,095	1,292,561	61,126	40,521	11,119,310
Butler.....	5,490,959	19,997	1,151,645	4,357,108	1,054,315	8,759	10,040	12,092,823
Bucks.....	2,964,622	14,703	518,968	2,467,001	483,176	112,110	11,046	6,571,626
Cambria.....	1,074,925	16,155	173,344	833,361	145,733	23,772	7,522	2,274,812
Cameron.....	201,179	200	12,520	73,220	16,421	1,064	1,315	305,919
Carbon.....	292,943	50	42,390	202,974	28,332	615	234	567,538
Centre.....	2,626,469	1,550	354,207	1,332,555	174,552	26,724	363	4,516,420
Chester.....	5,759,638	80,075	2,181,799	5,192,517	1,078,463	15,888	12,147	14,320,527
Clarion.....	1,568,836	6,932	311,902	1,317,708	188,556	44,398	3,358	3,441,690
Clearfield.....	1,371,084	7,272	248,426	931,661	150,971	28,536	3,012	2,740,962
Clinton.....	1,068,566	1,957	126,217	530,152	74,139	13,574	1,880	1,816,485
Columbia.....	1,790,979	4,730	282,616	1,064,968	156,886	11,163	4,531	3,315,873
Crawford.....	3,784,832	123,690	765,210	3,702,266	804,257	115,332	20,234	9,315,821
Cumberland.....	8,544,509	5,902	555,707	1,909,461	290,317	14,069	5,526	11,325,491
Dauphin.....	2,843,888	14,997	475,479	1,660,572	268,993	4,981	8,384	5,277,294
Delaware.....	1,368,141	38,566	406,920	1,605,657	512,642	500	227	3,932,653
Elk.....	211,944	48	34,856	206,706	36,311	3,554	501	493,920
Erie.....	3,810,413	14,093	656,260	2,930,156	688,520	85,412	18,539	8,203,393
Fayette.....	2,348,090	14,507	605,767	2,095,444	231,516	143,376	48,816	5,487,516
Franklin.....	1,155,560	1,466	23,769	127,114	21,055	3,307	1,179	333,450
Fulton.....	3,975,245	24,876	579,709	2,270,161	301,249	15,581	3,949	7,170,770
Forest.....	629,816	3,518	100,966	474,654	57,390	10,220	1,184	1,277,748

Greene .....	1, 859, 632	21, 586	398, 572	1, 875, 272	253, 554	222, 244	47, 863	4, 678, 723
Huntingdon.....	2, 133, 806	32, 836	242, 017	1, 434, 648	155, 717	27, 055	4, 211	4, 030, 290
Indiana.....	2, 607, 107	17, 879	455, 914	2, 174, 542	368, 415	62, 995	6, 959	5, 693, 811
Jefferson.....	1, 236, 455	6, 750	191, 075	941, 012	166, 018	28, 310	4, 730	2, 594, 350
Juniata.....	1, 320, 283	2, 378	159, 332	635, 850	100, 122	8, 469	1, 997	2, 228, 431
Lancaster.....	9, 727, 074	39, 708	2, 371, 860	6, 044, 215	844, 002	10, 046	24, 867	19, 061, 772
Lawrence.....	1, 706, 439	1, 172	299, 796	1, 373, 251	241, 389	134, 063	7, 979	3, 764, 089
Lebanon.....	2, 718, 700	4, 804	477, 381	1, 620, 335	292, 957	2, 003	6, 475	5, 123, 255
Lehigh.....	2, 393, 336	19, 528	457, 683	1, 949, 157	320, 656	4, 384	15, 203	5, 159, 947
Lucerne.....	2, 738, 362	18, 585	410, 612	2, 056, 063	372, 904	19, 277	10, 246	5, 626, 049
Lycoming.....	1, 993, 217	416, 625	135, 940	1, 244, 900	150, 176	12, 902	4, 624	3, 928, 384
McKean.....	462, 617	5, 222	84, 579	372, 162	69, 942	14, 008	5, 193	1, 013, 723
Mercer.....	3, 118, 007	21, 273	710, 626	2, 784, 612	535, 840	123, 319	21, 022	7, 314, 699
Mifflin.....	1, 414, 232	1, 089	187, 526	808, 039	140, 811	10, 228	1, 465	2, 563, 390
Monroe.....	834, 915	12, 063	149, 864	677, 047	99, 583	6, 019	2, 936	1, 782, 427
Montgomery.....	4, 498, 190	1, 894	1, 298, 321	3, 835, 237	1, 340, 112	2, 804	7, 049	10, 983, 607
Montour.....	703, 930	2, 446	113, 453	419, 606	65, 027	3, 378	401	1, 311, 241
Northampton.....	2, 643, 357	1, 271	435, 294	1, 900, 042	297, 104	7, 135	6, 903	5, 291, 106
Northumberland.....	1, 995, 774	1, 787	390, 667	1, 113, 983	164, 815	7, 879	2, 152	3, 587, 057
Perry.....	1, 726, 438	10, 843	260, 014	948, 988	12, 583	10, 224	1, 935	2, 971, 025
Philadelphia.....	1, 873, 809	5, 075	63, 967	639, 695	125, 186	150	905	2, 728, 847
Pike.....	374, 442	581	50, 346	309, 090	55, 191	1, 608	1, 300	792, 558
Potter.....	824, 923	10, 239	95, 004	672, 291	160, 548	26, 230	12, 484	1, 801, 779
Schuylkill.....	1, 656, 723	182, 789	259, 295	951, 979	134, 289	3, 342	7, 772	3, 196, 199
Somerset.....	1, 204, 996	3, 067	170, 035	651, 113	80, 421	4, 683	1, 384	2, 115, 699
Snyder.....	1, 879, 158	36, 933	262, 306	1, 666, 233	448, 180	40, 088	89, 550	4, 422, 448
Sullivan.....	433, 155	6, 758	80, 501	351, 901	76, 683	10, 608	251, 793	1, 211, 399
Susquehanna.....	3, 104, 024	18, 244	572, 688	3, 277, 763	869, 500	54, 292	15, 275	7, 911, 786
Tioga.....	2, 742, 723	13, 813	323, 737	2, 074, 117	562, 619	44, 894	30, 636	5, 792, 539
Union.....	1, 311, 345	.....	230, 239	658, 911	88, 684	4, 269	2, 391	2, 295, 839
Venango.....	1, 313, 560	13, 915	217, 484	1, 150, 153	172, 052	46, 283	4, 496	2, 917, 943
Warren.....	1, 270, 993	4, 768	185, 901	1, 063, 503	255, 916	25, 403	8, 140	2, 814, 624
Washington.....	4, 146, 805	4, 432	870, 401	3, 938, 335	395, 060	931, 376	19, 637	10, 306, 046
Wayne.....	1, 697, 178	3, 255	272, 558	1, 731, 055	336, 231	24, 763	5, 713	4, 070, 753
Westmoreland.....	4, 243, 247	10, 292	675, 021	3, 028, 081	107, 951	89, 325	19, 148	8, 473, 065
Wyoming.....	1, 127, 323	12, 103	174, 000	822, 811	450, 992	9, 807	2, 506	2, 306, 538
York.....	6, 408, 657	14, 072	982, 874	4, 013, 452	596, 781	19, 547	22, 192	12, 057, 575
	171, 703, 301	1, 503, 737	28, 413, 110	115, 647, 075	21, 542, 289	3, 285, 057	983, 422	343, 077, 991

## AGRICULTURAL PRODUCTIONS OF PENNSYLVANIA IN 1870.

Products.	Acres.	Production.	Relative rank with other States . . . . .
Wheat . . . . .	1, 193, 765	19, 672, 967 bush.	Sixth.
Rye . . . . .	228, 493	3, 577, 641 . . do . .	First.
Indian corn . . . . .	1, 105, 746	34, 702, 206 . . do . .	Eighth.
Oats . . . . .	1, 017, 580	36, 478, 585 . . do . .	Second.
Barley . . . . .	25, 376	529, 562 . . do . .	Ninth.
Buckwheat . . . . .	97, 156	2, 532, 173 . . do . .	Second.
Peas and beans . . . . .		39, 574 . . do . .	Twenty-third.
Potatoes . . . . .	104, 491	12, 889, 367 . . do . .	Second.
Clover seed . . . . .		200, 679 . . do . .	First.
Flax seed . . . . .		15, 624 . . do . .	Eighth.
Grass seed . . . . .		50, 642 . . do . .	Fifth.
Tobacco . . . . .	2, 826	3, 467, 529 lbs.	Twelfth.
Wool . . . . .		6, 561, 722 . . do . .	Fifth.
Butter . . . . .		60, 834, 644 . . do . .	Second.
Cheese . . . . .		1, 145, 209 . . do . .	Ninth.
Hops . . . . .		90, 688 . . do . .	Twelfth.
Flax . . . . .		815, 906 . . do . .	Fourth.
Maple sugar . . . . .		1, 545, 917 . . do . .	Sixth.
Honey . . . . .		796, 989 . . do . .	Sixth.
Beeswax . . . . .		27, 033 . . do . .	Seventh.
Hay . . . . .	2, 204, 301	2, 848, 219 tons.	Second.
Hemp . . . . .		571 . . do . .	Fourth.
Wine . . . . .		97, 165 gals.	Fifth.
Milk sold . . . . .		14, 411, 729 . . do . .	Fourth.
Sorghum molasses . . . . .		213, 373 . . do . .	Fourteenth.
Maple molasses . . . . .		39, 385 . . do . .	Fifth.
Horses . . . . .		460, 339 . . do . .	Sixth.
Mules . . . . .		18, 009 . . do . .	Sixteenth.
Milk cows . . . . .		706, 437 . . do . .	Second.
Working oxen . . . . .		30, 048 . . do . .	Nineteenth.
Other cattle . . . . .		608, 066 . . do . .	Eighth.
Sheep . . . . .		1, 794, 301 . . do . .	Fifth.
Swine . . . . .		867, 548 . . do . .	Eleventh.

AMERICAN MANUFACTURES AS SEEN BY AN ENGLISH  
DIPLOMATIST.

The British Government in 1872, instructed her Secretaries of Legation to report upon the condition of what are called textile manufacturing establishments in different countries to which they were accredited. Their instructions, especially, directed them to inquire into the rates of wages, the hours of labor and the cost of manufacturing, as compared with similar things at home. The idea is a capital one of having a report by their own employees to enlighten their own manufacturers and workmen. If our government has any unemployed secretaries, with the industry of this Secretary of the British Legation, at Washington, they had better instruct them



to follow his example. Such officials have advantages not usually possessed by most persons. Reports from all officials are promptly furnished them, and if they will visit and personally inspect manufacturing establishments with their own eyes every facility is offered them. J. P. Harris Gastrell must have been very industrious. His report upon the condition of manufactures in the United States, and, especially, upon cotton, woollen, worsted goods, flax, silk, jute, &c., is very exhaustive, covering 537 pages. The reports from all other countries covering only about one-third of this official volume. We should feel highly complimented by the space assigned and still more so by the industry, accuracy and liberality of this entire report. Our American manufacturers are conceded almost every thing they can justly claim. The department which he was specially commissioned to examine has probably the most complicated machinery of any other branch of American industry. He, unhesitatingly, admits that our machinists are ahead of the British, in adapting delicate instruments to accomplish their purposes. He admits that our iron is tougher and better suited to make machines for cording, spinning, weaving, dyeing and finishing the products of textile fabrics.

He gives elaborate statistical tables, showing for forty years past, the growth and magnitude of these branches of business, their increase from year to year in supplying our own markets, and warns Great Britain, that, at no distant day, she is likely to find us a formidable competitor for her foreign markets. He ascribes our success to the better adaptation of our machinery to perform this class of work. He thinks we have been forced to construct this machinery because of the high price of labor in this country. He admits that our mechanics handle our machinery with greater skill and that, I have no doubt, is because they are better educated. The drawbacks to our complete and final success, which he thinks is only a question of time, is the greater value of capital, the shorter hours by our workmen and the higher price paid for labor. He thinks that our workmen aggravate all these drawbacks by their frequent strikes.

He notes another drawback to our ultimate success in producing cheap fabrics in this country, to wit: That our great mills are run by a few corporations, and the owners can readily agree upon the quantity to be thrown upon the market. He thinks the English system of individual ownership is much better. In this he is undoubtedly correct. His references are to the great manufacturing corporations of New England. Had such a system never been introduced into our republican country it would have been greatly better; but having gotten a foothold it is not easy to change it. Small manufactures cannot live in competition with these mammoth corporations, and thus each year the whales are swallowing up the min-

nows. Thus a very few operators can meet, combine and keep up the prices.

In another branch, to wit: Mining of coal in Eastern Pennsylvania, the truth of this position is clearly demonstrated. A dozen of coal companies control the trade in the anthracite and semi-bituminous regions of the State.

Even upon the subject of our protective tariffs he is much more moderate than the average American free-trader. He knows that England protected all her own industries until they became so strong that no competition could endanger them. He don't like our tariff laws because they diminish the demand for British manufactures; but then he don't foam and rage like the active free-traders.

The report will do good. Its circulation will be amongst those who, under other circumstances, would never see or hear such statements. This report was probably intended for home consumption, and not to be circulated in the United States. A very few have crossed the Atlantic, and this is all the space we can spare to note this remarkable document.

#### MANUFACTURING INDUSTRY AS SHOWN BY THE CENSUS OF 1870.

	Number of establishments .....	Annual value of manufactures in each county in 1870.....	Estimated value of manufactures for 1875, being 50 per centum added for omissions and increase in 5 years.
Adams .....	502	\$1,415,126 00	\$2,122,689 00
Allegheny .....	1,844	88,789,414 00	133,184,121 00
Armstrong .....	276	4,337,357 00	6,506,035 00
Beaver.....	500	4,024,083 00	6,036,124 00
Bedford.....	369	1,587,024 00	2,380,536 00
Berks .....	1,414	16,243,453 00	24,365,179 00
Blair .....	440	6,428,366 00	9,642,549 00
Bradford .....	531	2,738,395 00	4,107,592 00
Bucks.....	739	4,732,118 00	7,098,177 00
Butler.....	387	1,330,032 00	1,995,048 00
Cambria.....	373	8,641,813 00	12,962,719 00
Cameron.....	44	896,810 00	1,345,215 00
Carbon.....	161	2,955,783 00	4,433,674 00
Centre .....	362	3,047,674 00	4,571,511 00
Chester.....	996	11,494,543 00	17,241,814 00
Clarion.....	279	1,355,506 00	2,033,259 00
Clearfield .....	245	1,109,405 00	1,664,107 00
Clinton.....	241	3,646,526 00	5,469,789 00
Columbia .....	258	2,706,290 00	4,059,435 00
Crawford.....	743	10,157,009 00	15,235,513 00
Cumberland.....	449	3,249,032 00	4,873,548 00
Dauphin .....	587	13,514,156 00	20,271,234 00
Delaware.....	314	11,041,654 00	16,562,484 00
Elk .....	81	1,524,392 00	2,286,588 00

MANUFACTURING INDUSTRY—*Continued.*

	Number of estab- lishments.....	Annual value of manufactures in each county in 1870.....	Estimated value of manufactures for 1875, being 50 per centum added for omissions and in- crease in 5 years,
Erie.....	928	\$9,697,987 00	\$14,546,980 00
Fayette.....	402	3,527,404 00	5,291,106 00
Forest.....	37	393,191 00	589,786 00
Franklin.....	529	3,621,349 00	5,432,023 00
Fulton.....	65	512,433 00	768,649 00
Greene.....	162	573,050 00	859,575 00
Huntingdon.....	324	2,319,152 00	3,478,728 00
Indiana.....	473	1,393,408 00	2,090,112 00
Jefferson.....	232	1,238,613 00	1,857,919 00
Juniata.....	204	678,345 00	1,017,522 00
Lancaster.....	1,616	14,034,180 00	21,051,270 00
Lawrence.....	181	3,439,700 00	5,159,550 00
Lebanon.....	481	4,160,084 00	6,240,126 00
Lehigh.....	694	15,480,848 00	23,221,272 00
Luzerne.....	886	17,493,463 00	26,239,694 00
Lycoming.....	608	9,081,406 00	13,622,109 00
M'Kean.....	36	358,984 00	538,976 00
Mercer.....	458	6,544,277 00	9,816,415 00
Mifflin.....	194	1,616,985 00	2,425,477 00
Monroe.....	254	2,232,539 00	3,348,808 00
Montgomery.....	1,089	16,933,703 00	25,400,554 00
Montour.....	158	4,857,602 00	7,286,403 00
Northampton.....	655	12,530,834 00	18,796,251 00
Northumberland.....	424	4,207,855 00	6,311,282 00
Perry.....	282	2,412,626 00	3,618,939 00
Philadelphia.....	8 184	322,004,517 00	483,006,775 00
Pike.....	67	692,313 00	1,038,469 00
Potter.....	41	249,724 00	374,586 00
Schuylkill.....	844	9,586,114 00	14,379,171 00
Snyder.....	496	1,240,671 00	1,861,006 00
Somerset.....	98	591,449 00	887,173 00
Sullivan.....	83	390,877 00	586,315 00
Susquehanna.....	376	3,225,054 00	4,837,581 00
Tioga.....	282	2,190,852 00	3,286,278 00
Union.....	106	1,288,692 00	1,933,038 00
Venango.....	278	4,516,566 00	6,774,849 00
Warren.....	450	3,224,768 00	4,837,152 00
Washington.....	402	2,037,441 00	3,056,161 00
Wayne.....	291	3,714,075 00	5,571,112 00
Westmoreland.....	390	2,592,487 00	3,888,730 00
Wyoming.....	194	1,013,831 00	1,520,746 00
York.....	1,111	7,028,934 00	10,543,401 00
		711,894,234 00	1,067,841,351 00



## FINANCIAL.

## THE RECEIPTS AND EXPENDITURES OF THE NATIONAL GOVERNMENT FOR TWELVE YEARS.

The United States collected the amounts specified in the following table from each source of revenue from 1861 to 1873, inclusive, viz:

## I.—SOURCES AND AMOUNTS OF REVENUE RECEIPTS.

Fiscal years.	Customs.	Int. revenue.	Direct tax.	Public lands.	Premium on loan and sales of coin.	Miscellaneous.	Net revenue.	Loans and treasury notes.
1861-62	\$49,056,397	.....	\$1,795,332	\$152,234	\$68,400	\$915,122	\$51,987,455	\$529,692,460
1862-63	69,059,642	\$37,640,788	1,485,104	167,617	602,345	3,741,794	112,697,291	776,682,361
1863-64	102,316,153	109,741,134	1,475,649	588,333	21,174,101	30,331,401	264,626,772	1,128,834,246
1864-65	84,928,261	209,464,215	1,200,573	996,553	11,683,447	25,441,556	333,714,605	1,472,224,741
1865-66	179,046,651	209,226,813	1,974,754	665,031	38,083,056	29,036,414	558,032,620	712,851,553
1866-67	176,417,811	236,027,537	4,200,234	1,163,576	27,787,330	15,037,522	490,634,010	640,426,910
1867-68	164,464,599	191,687,589	1,788,146	1,348,715	29,203,629	11,745,403	405,638,083	625,111,423
1868-69	180,048,427	158,356,461	765,686	4,020,344	13,755,491	13,997,339	376,843,747	238,678,081
1869-70	194,538,374	184,899,756	229,103	3,350,482	15,295,644	12,942,118	411,255,478	285,474,496
1870-71	206,270,408	143,098,154	580,355	2,388,647	8,892,840	22,093,541	383,323,945	268,768,523
1871-72	216,370,287	130,643,178	.....	2,575,714	9,412,638	15,106,057	374,106,868	305,047,054
1872-73	188,089,523	113,729,314	315,255	2,882,312	11,560,531	17,161,270	333,738,205	214,931,017

## RECEIPTS AND EXPENDITURES.—CONTINUED.

The expenditures of the National Government from 1861 to 1873 are shown in the following table, also the amount expended by each Department:

## 2—OBJECTS AND AMOUNTS OF REVENUE DISBURSEMENTS.

Fiscal years.	Premiums on loans and purchase of bonds.	Civil and miscellaneous.	War Dep't.	Navy Dep't.	Indians.	Pensions.	Interest on public debt.	Net ordinary expenditures.	Redemption of loans, etc.
1861-62.....	.....	\$21,408,491	\$394,368,407	\$42,668,277	\$2,273,223	\$853,065	\$13,190,324	\$474,761,819	\$96,096,922
1862-63.....	.....	23,253,965	599,298,601	63,221,964	3,154,357	1,078,922	24,729,847	714,740,725	181,086,635
1863-64.....	.....	27,505,399	690,791,543	85,725,995	2,029,859	4,983,924	53,685,421	865,322,642	432,822,614
1864-65.....	\$1,717,900	43,047,658	1,031,323,361	122,612,955	5,116,835	16,338,811	77,397,712	1,197,555,224	607,361,242
1865-66.....	58,476	41,056,962	284,449,702	43,324,118	3,247,064	15,605,352	133,067,742	520,409,417	620,263,249
1866-67.....	10,813,349	57,110,224	95,224,416	31,034,011	4,642,932	20,936,552	143,781,592	357,547,675	735,536,980
1867-68.....	7,001,151	53,009,868	133,246,649	25,775,503	4,100,682	23,782,387	140,424,046	377,340,285	962,549,686
1868-69.....	1,674,680	56,474,061	78,501,991	20,000,758	7,042,923	28,476,822	130,694,243	322,865,278	261,912,718
1869-70.....	15,996,556	53,237,461	57,655,675	21,780,230	3,407,938	28,340,202	129,235,498	309,653,561	398,254,282
1870-71.....	9,016,795	60,481,916	35,799,992	19,431,027	7,426,997	34,443,895	125,576,566	292,177,188	399,518,729
1871-72.....	6,958,267	61,984,757	35,372,157	21,249,810	7,061,729	28,533,403	117,357,840	277,517,963	405,007,308
1872-73.....	5,105,920	73,328,110	46,323,138	23,526,257	7,957,705	29,359,427	104,750,688	285,269,325	233,699,353

STATEMENT of receipts at the State Treasury from the several sources of revenue during the fiscal years ending November 30, 1872, and November 30, 1873.

SOURCES OF REVENUE.	1872.	1873.
<i>Corporations.</i>		
Railroad, canal, express, navigation and transportation companies.....	\$2,412,730 75	\$2,869,082 80
Coal, iron, improvement, mining and manufacturing companies.....	438,197 88	660,538 52
Passenger railway companies.....	74,134 40	74,537 19
Bridge, turnpike and plank road companies.....	31,231 61	34,368 25
Banks.....	341,021 31	342,499 63
Counties, cities and boroughs.....	102,464 21	107,057 19
Gas and water companies.....	36,750 26	50,633 92
Oil companies.....	90,482 93	48,221 37
Telegraph companies.....	6,564 50	7,952 01
Insurance companies, (domestic,).....	116,389 59	113,990 76
Insurance companies, (foreign,) licenses, &c.....	351,396 08	353,490 78
Premiums on corporation charters.....	101,584 74	68,343 76
Annuity for right of way, (Erie railroad,).....	10,000 00	10,000 00
All other companies and associations.....	24,693 01	46,636 00
<i>Miscellaneous taxes.</i>		
Tax on personal property.....	561,316 12	541,607 91
Notaries Public, tax on receipts.....	1,683 67	2,711 27
Notaries Public, commissions.....	.....	7,450 00
Tax on enrolment of laws.....	30,080 00	36,800 00
Tax on logs.....	900 00	1,500 00
Tax on writs, wills, deeds, &c.....	119,380 32	113,117 52
Tax on certain offices.....	20,770 56	10,723 89
Collateral inheritance tax.....	354,819 98	327,973 99
Tavern licenses.....	346,116 70	321,322 73
Retailers' licenses.....	424,941 83	424,974 89
Theatre, circus and menagerie licenses.....	3,020 45	5,121 75
Billiard, bowling saloon and ten-pin alley licenses.....	7,064 59	10,552 94
Eating-house, beer-house and restaurant licenses.....	42,316 81	42,165 02
Peddlers' licenses.....	2,679 61	2,830 38
Brokers' licenses.....	5,335 75	10,736 98
Patent medicine licenses.....	1,112 00	3,875 91
Brewery and distillery licenses.....	5,821 45	8,009 47
Millers' tax.....	641 16	4,486 84
Pamphlet laws.....	510 20	714 67
Fees of public officers.....	5,801 00	19,681 57
Auctioneers' commissions and duties.....	36,703 97	.....
Auctioneers' commissions.....	.....	13,765 34
Fines and penalties.....	.....	4 00
<i>Collections on outstanding indebtedness.</i>		
Refunded cash.....	4,938 05	3,715 70
Dividends on bridge stocks.....	240 00	.....
Sale of public property and escheats.....	26,202 45	.....
Sale of public property.....	.....	100 00
Cases of conscience.....	880 00	945 00
Accrued interests.....	4,204 31	4,297 97
Lands patented.....	45,724 73	53,035 48
Commutation of tonnage tax, as per act, 1861.....	460,000 00	230,000 00
Allegheny Valley railroad, interest on bonds, per act 1869,	87,500 00	87,500 00
	6,738,346 95	7,077,073 40



TABLE showing expenditure of the Commonwealth for the years 1872 and 1873.

	1872.	1873.
Senate.....	\$171,845 04	\$107,037 37
House of Representatives.....	236,689 89	260,763 88
Public printing.....	101,047 21	131,916 43
Executive department.....	30,830 69	40,503 39
Judiciary.....	331,474 30	348,916 01
Public officers.....	83,034 53	94,513 79
Military expenses.....	22,122 17	72,242 82
Packing and forwarding laws.....	1,290 00	1,383 90
Paid electors of President and Vice President.....		703 00
Constitutional Convention.....		410,723 80
Pensions and gratuities.....	54,831 11	50,334 57
Centennial Committee.....	6,325 31	6,755 14
Charitable institutions.....	441,527 10	439,307 13
Soldiers' orphan schools.....	471,986 41	469,308 94
Common schools.....	667,191 50	804,097 89
Pennsylvania State Agricultural Society.....	2,000 00	2,000 00
Amendments to Constitution.....	10,900 96	7,366 94
Loans redeemed, &c.....	2,511,172 87	1,551,762 57
Interest on loans.....	1,706,032 88	1,563,029 20
Damages and old claims.....	13,670 23	2,206 97
Harbor master, Philadelphia.....	1,874 99	2,708 34
Port warden, Philadelphia.....	2,500 00	2,499 99
Inspectors of coal mines.....	24,775 03	23,223 06
State library.....	6,550 00	8,750 00
Public buildings and grounds.....	29,636 64	90,591 23
Houses of Refuge.....	71,900 00	55,325 00
Penitentiaries.....	58,324 30	73,882 02
Escheats.....	7,459 34	693 80
Counsel fees and commissions.....	8,332 22	3,000 00
Special commissioners.....	2,619 57	13,255 00
Commissioners to adjust claims for damages in border counties.....	7,945 19	
Mercantile appraisers.....	1,784 79	2,188 47
Luzerne county riots.....	538 34	
Board of Public Charities.....	5,943 18	7,543 23
Revenue commissioners.....	1,800 00	
County surveyors.....	1,960 00	5,865 00
Assessors of bank stock.....		15,071 19
Inaugural expenses.....		4,974 19
Funeral of ex-Governor John W. Geary.....		4,306 41
Miscellaneous.....	45,074 64	50,026 90
	7,142,990 43	6,734,027 57

The State debt as shown by the statement of the Commissioners of the Sinking Fund, October 1, 1874, was as follows:

Debt bearing coin interest.....	\$4,423,500 00
Debt bearing interest in United States currency.....	19,668,000 00
Debt on which interest has been stopped.....	135,433 03
Debt bearing no interest.....	100,669 38
Chambersburg certificates, act May 27, 1871.....	83,032 96
Agricultural College land script fund of Pennsylvania....	500,000 00
	<u>24,910,635 37</u>

## WHAT PENNSYLVANIA PAYS FOR INSURANCE.

Very few persons have any idea what the aggregate of insurance is, in all its forms, paid by the people of our State. One year since, an insurance bureau was organized by the Legislature, and we now have the first annual report of the Commissioner for 1873, in two volumes—one Fire and Marine, the other Life Insurance. According to Mr. Foster's report, there was paid last year to

Fire and marine stock companies chartered by our State....	\$13,761,052.
Fire and marine mutual companies chartered by our State...	1,650,497
	<hr/>
	15,411,549
Deduct one-fifth for receipts from business done in other States,	3,082,309
	<hr/>
	12,329,240
Receipts of other State and European companies having agencies in this State .....	3,272,477
	<hr/>
Pennsylvania paid for fire and marine insurance in 1873.....	15,601,717
Life insurance paid in 1873, life insurance companies chartered by the State, partly estimated, \$2,000,000	
Agencies of companies chartered by other States	
on business done in this.....	6,016,236
	<hr/>
	8,016,236
	<hr/>
	<u>23,617,953</u>

This aggregates more than three times the entire revenue collected by the State, or, in other words, the people of the State, in 1873 paid for insurance equivalent to \$6 30 for every man, woman and child within the State.

Some of the details of the above summary will be more fully comprehended by reference to the following. Full details can be seen in the Commissioner's report:

## BUSINESS DONE BY INSURANCE COMPANIES IN PENNSYLVANIA.

	Risks in force Dec. 31, 1873.	Premiums re- ceived during 1873. ....	Losses paid 1873.	Percentage of losses to risks in force. ....
Joint stock fire companies chartered by Pennsylvania .....	\$927,719,775	\$10,557,068	\$6,183,379	00.66
Mutual companies chartered by Penn- sylvania.....	435,215,298	1,106,743	1,087,361	00.24
Joint stock fire companies chartered by other States.....	2,853,636,516	38,649,712	24,123,306	00.84
Agencies of European fire companies, Life insurance companies chartered by Pennsylvania.....	792,798,310	12,368,683	6,849,821	00.92
Life insurance companies chartered by other States.....	52,669,914	592,777	579,246	01.09
Aggregate .....	174,406,781	6,016,236	2,136,964	01.22
Pennsylvania joint stock inland and marine companies .....	5,236,446,594	69,291,219	40,960,077	00.78
Other States joint stock inland and marine companies .....	\$31,457,817	\$3,203,984	\$2,845,517	09.04
Aggregate .....	13,928,115	2,379,194	1,583,352	11.36
Aggregate .....	45,385,932	5,583,178	4,428,869	09.75

## CONDITION OF INSURANCE COMPANIES DOING BUSINESS IN PENNSYLVANIA.

	Paid up capi- tal.	Assets.	Income.	Expendi- tures.
Pennsylvania joint stock fire and marine companies.....	\$9,387,823	\$24,853,984	\$13,666,753	\$12,644,044
Other States joint stock fire and marine companies .....	29,779,285	55,584,409	39,819,529	36,270,434
Aggregate .....	39,167,108	80,438,393	53,486,292	48,914,478
European fire insurance com- panies.....	\$4,202,475	\$10,979,893	\$11,076,080	\$9,750,286
Pennsylvania mutual fire in- surance companies.....	Assets. \$203,019,906	Liabilities. \$200,086,746	Income. \$1,941,837	Expendit's. \$1,632,789
Pennsylvania life insurance companies .....	\$13,642,476	\$10,971,847	\$4,105,620	\$2,780,728
Life insurance companies of other States.....	351,795,356	306,198,935	113,982,930	81,772,409
	365,437,832	317,170,782	118,088,550	84,563,137

The Commonwealth received, in 1872 and 1873, taxes paid by insurance companies as follows, viz :

	1872.	1873.
From companies chartered by our State, tax on corporation stocks and net earnings.....	\$116,396 59	\$113,990 76
From other State and European companies, tax on licenses and premiums.....	351,396 08	353,490 78
	467,7 2 67	467,481 54



## COST OF PUBLIC WORKS AND THE STOCKS OF CORPORATIONS.

WASHINGTON, D. C., *March 14, 1874.*

His Excellency JNO. F. HARTRANFT:

DEAR SIR:—If you can conveniently aid in obtaining authentic facts as to the cost of construction, annual amount of expenditure, and annual amount of income of the Pennsylvania Central railroad, while it was the property of and controlled by the State, you will greatly favor

Your obedient servant,

JAS. S. BIERY.

A duplicate of my answer to the Hon. George B. Loring was sent to Hon. Jas. S. Biery, M. C.

MASSACHUSETTS SENATE, PRESIDENT'S ROOM, }  
BOSTON, *March 20, 1874.* }

MY DEAR SIR:—I have the honor and pleasure to acknowledge the receipt of valuable documents relating to public affairs, railroads, &c., in Pennsylvania. Please accept my thanks for your kind attention in forwarding them.

Fifteen or twenty years ago the State of Pennsylvania sold out their interest in the Pennsylvania Central railroad, as an act of benefit to the road and State both. I suppose that act was the result of certain investigations and reports by commissioners. Are such reports to be had? A proposition to run Massachusetts into State ownership of railroads, is before us, and I am very anxious to learn what was done by Pennsylvania under similar circumstances.

If the reports to which I allude cannot be obtained as public documents, can you inform me where I can find them?

Truly and respectfully yours, &amp;c.,

GEO. B. LORING.

His Excellency JNO. F. HARTRANFT,

*Governor of Pennsylvania, Harrisburg.*

COMMONWEALTH OF PENNSYLVANIA,  
OFFICE OF BUREAU OF STATISTICS OF LABOR AND AGRICULTURE, }  
HARRISBURG, *May 4, 1874.* }

HON. GEORGE B. LORING,

DEAR SIR:—Governor Hartranft has referred to my Bureau your letter of March 20, asking certain questions in regard to our State having sold out her interest in the Pennsylvania Central railroad some fifteen or twenty year since.

Pennsylvania at no time held stock in the railroad of that name; she, however, had a pretty large experience in the ownership and management of public works—chiefly canals. About 1826, our State, in her corporate capacity, commenced the construction of what was known as her main line from Philadelphia to Pittsburg, this was composed of about 126 miles of railroad and about 292 miles of canal. This main line was completed about 1831 and cost the State about \$18,615,663.

While bills to complete this main line were pending in the Legislature, a system of “log-rolling” was inaugurated by which seven or eight branch canals were also put under contract—the whole expenditure for which reached about \$17,000,000. An account current might be stated as follows, viz:

Pennsylvania main line, canal and railroad, about 416 miles.....	\$18,615,663 00
Delaware, Susquehanna, North and West Branch divisions, of canal, costing.....	10,965,569 61
Beaver, Erie, French Creek, one or two others, none of these finished by the State.....	5,589,234 34
	<hr/>
	35,170,466 95

These public works were managed by a board of three canal commissioners. For about twelve years they were appointed by the Governor; for the last fifteen years elected by the people—one each year. The main line and Delaware Division paid something, probably two per cent., on the cost of investment, exclusive of management. The second class of branches did not pay, on an aggregate, the cost of management. The third class being unfinished were given away to companies to finish, and the State never received anything.

About 1844, commenced an agitation which resulted, thirteen years thereafter, in selling out these works and disconnecting the State from all management. The question did not turn so much upon their unproductiveness as upon their corrupting influence on State politics. The canal commissioners, as the people generally believed, being engaged in running the politics of the State, rather than attending to their legitimate functions.

The main line costing \$18,615,663, was sold to the Pennsylvania railroad company for \$7,500,000. The other finished branches, costing \$10,965,569 61, were sold for \$3,500,000. The third class, of course, nothing was realized from.

The experiment, you may say, was a costly one to the State, yet, probably, the development which their construction gave to the individual wealth of the citizens was worth five times what was directly lost. An amendment to our State Constitution, adopted in 1857, prohibits the State from build-

ing railroads, or in any way aiding, by subscribing stock or otherwise. If Massachusetts would learn a lesson from Pennsylvania, she would not engage in building or managing railroads. Our State abhors this more on account of its demoralizing effects upon politics, than the losses she incurred in their construction. The Pennsylvania railroad was chartered in 1846, completed about 1853-4.

It cost from Harrisburg to Pittsburg.....	\$15,237,965 03
From Philadelphia to Harrisburg, old Columbia road, &c.,	5,375,733 43
Equipment, locomotives, cars, &c.....	7,458,101 14
Real estate and telegraph.....	5,258,642 55
Improvements at Philadelphia and Pittsburg.....	1,279,718 55
	<hr/>
	34,610,100 70
Its investments in stocks, bonds, &c., in other railroads, on January 1, 1871, were, within the State.....	90,072,069 82
This investment increased, within the last three years, about.....	16,000,000 00
	<hr/>
Whole investments within the State.....	140,682,170 52
Estimates have been made that this company has control- ling interests in railroads without the State, costing in all probably.....	500,000,000 00
	<hr/>
	640,682,170 52

The above, probably, covers your inquiry to the Governor, if not, please address me as to the point you may desire.

I remain yours,

THOMAS J. BIGHAM.

*Commissioner of Statistics.*

SEPTEMBER 26, 1874.

NOTE.—This was written over four months before the elaborate report of the committee of stockholders, who reviewed the value of assets, held by the Pennsylvania railroad company. I have not compared them to see wherein they agree, or how far they differ.



Pennsylvania, about 1826, commenced building railroads and canals by State authority. The following table gives an abstract of cost, revenue and expenditures up to January 1, 1844, on main line :

	Cost.	Revenue.	Expenditure.
Columbia and Philadelphia railroad .....	\$4,204,969 96	\$3,195,353 99	\$2,835,684 32
Eastern division of canal .....	1,736,599 42	1,436,665 16	434,934 79
Juniata division of canal .....	3,521,412 21	806,157 13	1,023,286 13
Allegheny Portage railroad .....	1,828,461 35	1,308,358 82	1,366,534 82
Western division of canal .....	3,069,877 38	1,165,496 03	848,198 42
	14,361,320 32	7,912,031 13	6,508,638 48
Increased cost of main line, being chiefly building new Portage railroad, from January, 1844, to sale in 1857 .....	4,254,342 68		
	18,615,663 00		
This main line sold to Pennsylvania railroad by act of May 16, 1857 .....	7,500,000 00		
	11,115,663 00		
Loss on main line .....			

The following table gives an abstract of cost, revenue and expenditures on branch canals to January 1, 1844 :

	Cost.	Revenue.	Expenditure.
Delaware division of canal .....	\$1,381,741 96	\$844,670 61	\$838,514 26
Susquehanna division of canal .....	896,379 52	200,586 75	371,882 14
North Branch division of canal .....	1,580,670 87	169,242 11	541,007 08
West Branch division of canal .....	1,808,472 10	123,865 39	463,689 84
French Creek division of canal .....	795,801 74	5,722 94	141,897 12
Beaver division of canal .....	511,671 19	30,525 33	179,002 62
<i>Unfinished Improvements.</i>	6,974,737 38	1,374,613 13	2,535,993 06
North Branch extension of canal .....	2,484,939 60		
West Branch extension of canal .....	352,456 79		
Erie extension of canal .....	3,160,566 76		
Wiconisco feeder .....	390,013 28		
Allegheny feeder .....	31,171 56		
Gettysburg extension of railroad .....	667,917 61		
	14,061,802 98		
Increased cost of branch canals from January, 1844, to sale in 1858 .....	2,422,616 93		
	16,484,419 91		
Branch canals sold to Sunbury and Erie railroad by act of April 21, 1858 .....	3,500,000 00		
	12,984,419 91		
Loss on branch canals .....			

Amount of stocks held by Commonwealth on April 8, 1843, in sundry banks, canals, railroads, turnpikes and bridges, chiefly results of log-rolling while improvement system was in vogue :

Amount sold per act of April 3, 1843,

(original cost,).....	\$4,191,783 00	
Sold since, (original cost,).....	249,275 94	
*Still held, (original cost,).....	1,754,321 62	
		<hr/> \$6,194,380 56

*Amount received on account of above.*

Proceeds of sale in 1843.....	1,405,130 63	
Proceeds of stock since sold, about.....	35,000 00	
		<hr/> 1,440,130 63

Loss on corporation stock.....	4,754,249 93	
Loss on main line.....	11,115,663 00	
Loss on branch canals.....	12,984,419 91	

Loss of Commonwealth on her public improvements, 28,854,332 84

#### INDEBTEDNESS OF THE UNITED STATES, COUNTIES, CITIES, RAILROADS AND INDIVIDUALS.

United States, May 1, 1874 .....	\$2,149,725,227 02	
United States bonds to the various		
Pacific railroads.....	\$64,623,512 00	
Interest to the various Pacific rail-		
roads.....	17,335,273 19	
		<hr/> 81,958,785 19
Total National .....	2,231,684,012 21	

*The several States owe as follows, viz :*

Alabama .....	Oct.	1, 1873....	\$11,258,836 07
Arkansas.....	Oct.	1, 1873....	10,885,000 00
California .....	July	1, 1873....	3,796,500 00
Connecticut ....	April	1, 1873....	5,095,900 00
Delaware .....	Jan.	1, 1874....	1,231,000 00
Florida.....	Dec.	31, 1873....	5,620,809 27
Georgia.....	Jan.	1, 1874....	14,871,084 00
Indiana .....	Oct.	31, 1873....	4,898,813 34
Illinois .....	Dec.	1, 1872....	2,060,150 63
Iowa.....	Nov.	1, 1873....	543,056 15

\*This amount of old corporation stocks has no market value, and is practically worthless.

Kansas.....	Nov. 30, 1873....	\$1,336,675 00
Kentucky .....	Oct. 10, 1873....	2,720,710 72
Louisiana .....	Jan. 1, 1874 ...	22,308,800 00
Maryland .....	Sept. 30, 1873....	10,771,215 60
Massachusetts ..	Jan. 1, 1874....	28,477,804 00
Maine .....	Jan. 1, 1874....	7,138,400 00
Michigan.....	Sept. 30, 1872....	2,243,292 78
Minnesota.....	Nov. 30, 1873....	250,000 00
Missouri.....	Jan. 1, 1873....	18,747,000 00
New Hampshire, Jan.	1, 1873 ...	3,914,195 44
New Jersey.....	Nov. 1, 1873....	2,696,300 00
New York.....	Oct. 1, 1873....	36,530,406 40
Nevada .....	May 1, 1871....	660,000 00
North Carolina..	Oct. 1, 1873....	29,547,045 00
Oregon.....	Sept. 1, 1872....	290,477 00
Ohio.....	Sept. 15, 1873....	8,221,062 10
Pennsylvania ...	Dec. 1, 1873....	25,794,061 63
Rhode Island ...	April 30, 1873....	2,638,500 00
South Carolina..	Dec. 31, 1873....	20,650,225 00
Tennessee.....	Jan. 1, 1873....	20,966,382 19
Texas .....	Sept. 1, 1873....	3,715,978 88
Vermont .....	Aug. 1, 1873....	297,500 00
Virginia.....	Sept. 30, 1873....	45,718,112 23

Total State debt..... 355,895,293 43

*County Indebtedness.*

United States..... \$180,000,000 00

*Cities:*

1st class, 16 cities over ... 100,000,	350,000,000 00
2d class, 12 cities 50,000 to 100,000,	30,000,000 00
3d class, 53 cities 20,000 to 50,000,	75,000,000 00
4th class, 105 cities 10,000 to 20,000,	35,000,000 00
5th class.... cities less than 10,000,	80,000,000 00

750,000,000 00

*Railroad Indebtedness.*

New England States.....	\$122,224,449 00
Middle States.....	477,199,070 00
Western States.....	883,794,823 00
Southern States.....	280,846,999 00
Pacific States.....	102,839,109 00

Total railroad debt..... 1,866,904,450 00



*Banks.*

Discount by National banks .....	\$944,223,304 00
Discount by State banks.....	514,081,396 00

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Total banks.....	\$1,458,304,700 00
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Total indebtedness of the United States.....	6,612,788,455 64
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To meet this enormous indebtedness, we have an amount of national wealth, estimated by the census of 1870, at thirty billion dollars, (\$30,000,000,000.)

Our annual income from all industries and earnings, has been estimated, by a high English authority, at six billion dollars, (\$6,000,000,000.) He admits we are ahead of Great Britain, France, Russia, Prussia or any of the great European nationalities. He only claims for Great Britain five billion dollars, (\$5,000,000,000,) or one-sixth less than he allows to the United States.

My own statement of public indebtedness, prepared prior to Speaker Blaine's address, has been revised, and his statements in reference to the indebtedness of counties and cities adopted. His statement, that State investments in public improvements rarely paid, is strikingly illustrated by the experience of Pennsylvania.

	Cost.	Sold for.
Main line of canal and railroad.....	\$18,615,663 00	\$7,500,000 00
Her entire branch canals .....	16,484,419 00	3,500,000 00
She held stocks in chartered companies.....	6,194,380 00	1,440,130 00
Loss to the State.....		28,854,332 00
	41,294,462 00	41,294,462 00

## BANKRUPTCIES.

The annual business statement of failures in the year 1873 has been published, and is very interesting. The number is quite large—5,183, as against 3,551 in 1870, and 2,915 in 1871, and 4,069 in 1872. The approach of the revulsion, however, was distinctly foreshadowed by the statistics of the year 1872, when the aggregate liabilities of the failed firms were \$121,056,000, as against \$88,242,000 in 1870, and \$85,252,000 in 1871. Nor can there be any doubt as to the cause of the increased bankruptcies in 1872, Massachusetts exhibiting \$25,374,000, as against \$20,684,000 for New York city, and Illinois figuring \$11,470,000, as against \$9,422,000 for

Pennsylvania. The Boston and Chicago conflagrations swept away such enormous values as to precipitate these failures. Insurance, banking and other interests must have been damaged by those conflagrations to an extent the scope of which was not known at the time.

Turning to the great centres of these interests, we find that while the range of liabilities of failed firms in New York city was between twenty and twenty-one millions a year prior to the great panic, the aggregate in 1873 rose to between ninety-two and ninety-three millions. In New York State, outside the city, the amount rose from between eight and nine millions to thirteen and three-quarter millions. In Pennsylvania the rise was from between seven and ten millions to thirty-one and a half millions; in Massachusetts the liabilities of 1873, though less than half those of 1872, were several millions ahead of preceding experience. The amount in Missouri was more than doubled. Ohio also increased largely. But the rest of the country shows no increase of bankrupt liabilities, except Rhode Island, which leaped suddenly up to fifteen and a quarter millions, in consequence of the Sprague failure. Maryland appears to have had her revulsion in 1872, at the same time with Boston, her bankrupt liabilities having been \$5,045,000 in 1872, and only \$1,229,000 in 1873. California seems to have had hers in 1871, when her bankrupt liabilities were \$4,279,000, against only \$1,500,000 in 1873.

From this review the inference must be that this revulsion, although precipitated by the Cooke failure, had been gradually approaching, and was largely caused by the conflagrations in Chicago and Boston. The boast of both cities of having recuperated so suddenly seems to be a dear one to the country, since it has caused all the difference between 2,915 bankruptcies and \$85,252,000 of liabilities in 1871, and 4,069 bankruptcies and \$121,056,000 liabilities in 1872, and 5,183 bankruptcies and \$228,449,000 liabilities in 1873. If it could be supposed that the great increase of bankruptcy in 1872 and 1873 resulted from any inherent unsoundness in the current mode of doing business it might warrant the preaching on the subject in which the journals indulge. But the examination we have given does not justify any such conclusion. San Francisco, Baltimore, Chicago and Boston all appear to have had their cleaning out in 1871 and 1872, and from causes peculiar to themselves. The great strongholds in New York and Philadelphia resisted until the fall of 1873, and then gave way. There is no avoiding the conclusion that the losses of the tremendous conflagrations in Boston and Chicago have been distributed over the country, and that the two cities named have borne but a limited share of them.

Of the failures of 1870 New York city and State had 818 out of 3,551, or less than one-fourth of those of 1871; the same city and State had 645 out of 2,915; of those of 1872, the same city and State had 808 out of 4,069, or

about one-fifth; of those of 1873, the same city and State had 1,188 out of 5,183, or less than one-fifth. Taking the States of New York and Pennsylvania together, they had in 1873 no less than 864 failures, and their liabilities aggregated \$137,801,000, so that the storm of 1873 seems to have vented its worst fury on these two States, and chiefly upon Philadelphia, New York and their suburbs. Together these cities centralize all the interests of the republic, and they have suffered for the collected mishaps of all the rest of the country. The calamity burst upon New York with more terrible effects than has been generally known, and the destruction of values has fully equalled the losses by both the Boston and Chicago conflagrations.

It would be folly to deny that the revulsion has developed a vast amount of dishonesty, rottenness, baseless credit and general recklessness. But very much of this exists in all great and prosperous nations, and in all times of active enterprise and commercial spirit. It is surprising how well the country for several years stood the severe trials caused by the speculative combinations in New York, involving, as they must have done, very disastrous losses. It is surprising how well we stood the Boston and Chicago conflagrations. But it is now apparent that all these events were treated too lightly. It was supposed that the losses could be carried without an effort. But the revulsion showed that this was a mistake.

Had not these gigantic speculations and conflagrations unhinged credit so much, our belief is that the whole railway and industrial movement would have been carried along without difficulty. But the Black Friday panic in New York had a corresponding crash of a breadstuffs' corner in Chicago, with the failure of all the connected interests, and New York sustained heavy losses also in the foreign trade from a variety of causes. The aggregated liabilities in bankruptcy in the last two years are three hundred and forty-nine and a half millions of dollars. But if we suppose half of this to be lost, it would form but a small fraction of the general business of the country. The sales of New York city alone amount to three thousand millions of dollars, and those of Philadelphia to about a thousand millions. The losses in New York city, supposing half the liabilities of the bankrupt firms to be lost, would be forty-six millions, or less than one sixty-fifth, and this may fairly be applied to the country at large. So that the condition of business cannot be judged by the failures alone, but must be calculated upon the basis of the whole trade. The business aggregates of this nation increase constantly upon an extraordinary scale. Yet in 1871 there were fewer failures than in 1870, and the liabilities were less.

If the publication of these bankrupt tables shall induce more careful habits of business they will produce good results. But if they generate alarm at the magnitude of the insolvency the effect will be unfortunate.



Just such a panic we have had about railroads, and when we come to examine the subject we find American railroads, on an average, more profitable than the British. So, we have no doubt, the general business of the country would prove, if it could be examined in the same way. A revulsion always brings down many firms that have been tottering for years. It clears the atmosphere and makes times better for all sound and reliable houses. If general business had not been sound we should have seen it in the condition of the banks, whose means must of course be chiefly loaned to business concerns. But the banks have come out of the storm unscathed, and mercantile credit is excellent and trade prospects fair and promising. If Chicago does not burn up again, or Boston kindle a new conflagration, we shall see an active trade during the ensuing season.

## BANKING.

TREASURY DEPARTMENT,  
OFFICE OF COMPTROLLER OF THE CURRENCY, }  
WASHINGTON, *October 10, 1874.*

SIR:—I have the honor to enclose you statements giving statistics of the National banks in Pennsylvania, similar to those of the National banks in Ohio, published in the report of the Secretary of State of Ohio for the year 1873.

The statements comprise the statistics on the various subjects treated up to the latest possible date, with the exception of the abstract marked "A," which shows the various items of the resources and liabilities of the banks at the close of business on the 26th of June last.

So soon as the reports of the condition of the banks on the 2d inst. shall be tabulated, an abstract of their resources and liabilities at that date will be sent you as requested in your letter of the 29th ult.

Very respectfully,

JOHN JAY KNOX,  
*Comptroller.*

Hon. THOS. J. BIGHAM,

*Commissioner of Statistics of Labor and Agriculture,  
Harrisburg, Penn'a.*

[A.]

ABSTRACT of reports made to the Comptroller of the Currency, showing the condition of the national banks in the State of Pennsylvania, and of those in Philadelphia and Pittsburg, at the close of business on the 26th day of June, 1874.

RESOURCES.	*Pennsylvania.	Philadelphia.	Pittsburg.
Number of Banks .....	159 Banks.	29 Banks.	16 Banks.
Loans and discounts .....	\$46,604,009 21	\$45,163,552 14	\$16,133,037 26
Bonds for circulation.....	26,283,300 00	13,668,200 00	7,558,500 00
Bonds for deposits .....	710,000 00	225,000 00	50,000 00
United States bonds on hand .....	554,450 00	321,300 00	278,000 00
Other stocks and bonds .....	1,969,953 60	1,629,237 82	115,308 93
Due from redeeming agents .....	5,926,090 35	4,630,112 11	2,368,971 85
Due from national banks.....	1,766,844 88	2,876,040 00	611,969 62
Due from State banks.....	1,104,577 55	778,791 67	197,408 21
Real estate, &c.....	2,002,604 15	2,286,773 65	897,904 19
Current expenses .....	318,326 85	185,673 47	84,959 55
Premiums paid .....	400,723 19	188,496 26	46,067 55
Cash items .....	521,224 59	297,604 50	150,476 73
Exchanges for clearing-house.....	.....	4,976,605 48	548,738 48
Bills of national banks.....	1,013,768 00	2,012,503 00	437,197 00
Fractional currency.....	164,814 74	152,428 56	35,657 48
Specie.....	62,217 71	186,622 47	40,837 46
Legal tender notes.....	5,360,908 00	6,316,086 00	3,229,795 00
United States certificates of deposit..	75,000 00	4,990,000 00	100,000 00
Total .....	94,838,812 82	90,885,027 13	32,884,829 31
LIABILITIES.			
Capital stock .....	\$27,025,240 00	\$16,935,000 00	\$9,000,000 00
Surplus fund.....	7,331,331 54	7,171,997 46	3,079,741 38
Undivided profits.....	2,149,203 46	1,233,523 76	632,216 53
National bank circulation.....	23,136,927 00	11,802,777 00	6,555,756 00
State bank circulation.....	95,944 00	42,527 00	16,614 00
Dividends unpaid .....	143,009 22	60,277 71	34,695 25
Individual deposits .....	31,081,823 89	42,362,374 92	11,435,464 66
United States deposits .....	372,629 02	154,416 74	45,000 00
Deposits of U. S. disbursing officers..	7,770 43	.....	.....
Due to national banks.....	2,395,241 59	8,486,505 14	1,157,272 67
Due to State banks.....	607,568 47	2,630,627 40	913,117 06
Notes re-discounted.....	434,602 89	5,000 00	14,951 76
Bills payable.....	57,521 31	.....	.....
Total .....	94,838,812 82	90,885,027 13	32,884,829 31

\*Exclusive of the banks in Philadelphia and Pittsburg.

[B.]

NATIONAL BANKS in the State of Pennsylvania, with the amount of capital stock and circulation of each October 1, 1874, as shown by the books of the office of Comptroller of the Currency.

LOCATION.		Title.	No.	Capital.	Circulation.
County.	Town or city.				
Allegheny	Allegheny	First	198	\$350,000 00	\$313,000 00
Do.	do.	Second	776	150,000 00	135,000 00
Lehigh	Allentown	First	161	250,000 00	225,000 00
Do.	do.	Second	373	300,000 00	270,000 00
Do.	do.	Allentown	1322	500,000 00	450,000 00
Blair	Altoona	First	247	150,000 00	135,000 00
Schuylkill	Ashland	do.	403	175,000 00	157,500 00
Bradford	Athens	do.	1094	100,000 00	90,000 00
Centre	Belleville	do.	459	100,000 00	87,500 00
Columbia	Berwick	do.	568	75,000 00	67,500 00
Northampton	Bethlehem	do.	138	500,000 00	450,000 00
Do.	do.	Lehigh Valley	2050	300,000 00	270,000 00
Indiana	Blairsville	First	867	80,000 00	72,000 00
Columbia	Bloomsburg	do.	293	50,000 00	44,000 00
Berks	Boylestown	National Bank of Boylestown	717	50,000 00	82,900 00
Bucks	Bristol	Farmers' National Bank of Bucks County	135	75,000 00	67,500 00
Fayette	Brownsville	First National Bank	648	200,000 00	178,750 00
Do.	do.	Monongahela National Bank	926	100,000 00	89,000 00
Allegheny	Buchanan	First National Bank of Birmingham	309	100,000 00	90,000 00
Butler	Butler	First National Bank	664	110,000 00	99,000 00
Luzerne	Carbondale	First National Bank	1411	500,000 00	450,000 00
Lehigh	Catasauqua	National Bank of Catasauqua	593	200,000 00	233,500 00
Franklin	Chambersburg	National Bank of Chambersburg	332	100,000 00	90,000 00
Delaware	Chester	First	355	300,000 00	141,500 00
Do.	do.	Delaware County	774	100,000 00	87,000 00
Clarion	Clarion	First	768	100,000 00	90,000 00
Clearfield	Clearfield	do.	855	100,000 00	65,750 00
Do.	do.	County	575	200,000 00	179,000 00
Chester	Coatesville	National Bank of Chester Valley	371	150,000 00	132,000 00
Lancaster	Columbia	First National Bank			



## NATIONAL BANKS IN PENNSYLVANIA—Continued.

LOCATION.		Title.	No.	Capital.	Circulation.
County.	Town or city.				
Laurester	Columbia	Columbia..... National Bank	641	\$500,000 00	\$450,000 00
Crawford	Conneautville	First.....	143	100,000 00	89,400 00
Montgomery	Conshohocken	do.....	2078	150,000 00	135,000 00
Erie	Corry	do.....	605	100,000 00	90,000 00
Do.	do.	Corry.....	569	100,000 00	90,000 00
Clearfield	Curwensville	do.....	300	100,000 00	90,000 00
Montour	Danville	First.....	325	150,000 00	135,000 00
Do.	do.	do.....	1078	200,000 00	180,000 00
Chester	Downingtown	Danville.....	661	100,000 00	90,000 00
Bucks	Doylestown	Downingtown.....	573	105,000 00	94,500 00
Northampton	Easton	Doylestown.....	1171	400,000 00	359,950 00
Do.	do.	First.....	1233	500,000 00	450,000 00
Erie	Erie	Easton.....	12	150,000 00	145,500 00
Do.	do.	First.....	606	300,000 00	260,000 00
Do.	do.	Second.....	535	250,000 00	200,600 00
Do.	do.	Keystone.....	870	150,000 00	131,000 00
Venango	Franklin	Marine.....	189	100,000 00	87,500 00
Adams	Gettysburg	First.....	311	100,000 00	90,000 00
Do.	do.	do.....	611	145,150 00	130,500 00
Erie	Girard	Gettysburg.....	54	100,000 00	90,000 00
York	Glen Rock	First.....	435	50,000 00	48,000 00
Franklin	Green Castle	do.....	1081	100,000 00	87,500 00
Montgomery	Green Lane	do.....	2131	100,000 00	45,000 00
Westmoreland	Greensburg	Farmers.....	1894	100,000 00	80,000 00
Mercer	Greenville	First National Bank of West Greenville	249	125,000 00	89,500 00
York	Hanover	First.....	187	100,000 00	100,000 00
Dauphin	Harrisburg	do.....	201	100,000 00	90,000 00
Do.	do.	Harrisburg.....	580	300,000 00	270,000 00
Blair	Holidaysburg	First.....	57	50,000 00	45,000 00
Wayne	Honesdale	do.....	644	300,000 00	270,000 00
Chester	Honeybrook	Honesdale.....	1676	100,000 00	90,000 00
Huntingdon	Huntingdon	First.....	31	150,000 00	135,000 00
Indiana	Indiana	do.....	313	200,000 00	180,000 00
Cambria	Johnstown	do.....	51	60,000 00	54,000 00

Armstrong.	Kittanning	do.	do.	do.	69	200,000 00	199,500 00
Berks.	Kutztown.	National Bank of Kutztown.	First.	National Bank	1875	60,000 00	50,000 00
Lancaster.	Lancaster	Farmers' do.	do.	Lancaster County	333	140,000 00	140,000 00
Do.	do.	do.	do.	do.	597	450,000 00	405,000 00
Do.	do.	do.	do.	do.	683	300,000 00	270,000 00
Montgomery.	Lansdale.	First.	do.	do.	430	100,000 00	89,200 00
Lebanon.	Lebanon.	do.	do.	do.	240	50,000 00	45,000 00
Do.	do.	Valley	do.	do.	655	100,000 00	87,500 00
Do.	do.	Lebanon.	do.	do.	680	200,000 00	173,800 00
Union.	Lewisburg	Lewisburg	do.	do.	745	100,000 00	90,000 00
Do.	do.	Union.	do.	do.	781	100,000 00	63,000 00
Mifflin.	Lewistown.	Mifflin County.	do.	do.	1579	100,000 00	90,000 00
Clinton	Lock Haven.	First.	do.	do.	507	100,000 00	88,000 00
Do.	do.	Lock Haven.	do.	do.	1273	120,000 00	68,000 00
Schuylkill	Mahanoy City.	First.	do.	do.	567	80,000 00	54,000 00
Lancaster.	Manheim.	Manheim.	do.	do.	912	100,000 00	90,000 00
Do.	Marietta	First.	do.	do.	25	100,000 00	99,000 00
Carbon.	Mauch Chunk	do.	do.	do.	437	400,000 00	350,000 00
Do.	do.	Second.	do.	do.	469	150,000 00	132,350 00
Crawford	Meadville	First.	do.	do.	115	150,000 00	90,000 00
Do.	do.	Merchants'	do.	do.	871	100,000 00	90,000 00
Cumberland	Mechanicsburg	First.	do.	do.	380	100,000 00	90,000 00
Do.	do.	Second.	do.	do.	326	50,000 00	49,500 00
Delaware.	Media	First.	do.	do.	312	100,000 00	90,000 00
Mercer	Mercer	do.	do.	do.	392	60,000 00	54,000 00
Dauphin.	Middletown	National Bank of Middletown.	First.	National Bank	383	100,000 00	67,500 00
Union.	Mifflinburg	do.	do.	do.	174	100,000 00	90,000 00
Northumberland	Milton.	do.	do.	do.	253	85,900 00	76,500 00
Do.	do.	Milton.	do.	do.	711	100,000 00	89,000 00
Schuylkill	Minersville.	First.	do.	do.	423	100,000 00	87,500 00
Lancaster.	Mount Joy	do.	do.	do.	607	100,000 00	88,950 00
Do.	do.	Union National Mount Joy Bank	First.	National Bank	1516	100,000 00	88,000 00
Westmoreland	Mount Pleasant.	do.	do.	do.	386	150,000 00	135,000 00
Lycoming	Muncy	National Bank of Beaver County	First.	National Bank	837	100,000 00	85,950 00
Beaver.	New Brighton	do.	do.	do.	632	200,000 00	108,000 00
Lawrence.	New Castle	First National Bank	do.	do.	562	150,000 00	135,000 00
Do.	do.	National Bank of Lawrence County	First.	National Bank	1156	150,000 00	135,000 00
Bucks.	Newtown.	do.	do.	do.	324	100,000 00	88,500 00
Cumberland.	Newville.	do.	do.	do.	60	100,000 00	90,000 00
Montgomery.	Norristown.	do.	do.	do.	272	150,000 00	133,750 00
Do.	do.	Montgomery	do.	do.	1148	400,000 00	360,000 00
Erie	North-East	First.	do.	do.	741	50,000 00	45,000 00
Northumberland	Northumberland	do.	do.	do.	566	100,000 00	90,000 00

## NATIONAL BANKS IN PENNSYLVANIA—CONTINUED.

LOCATION.		Title.	No.	Capital.	Circulation.
County.	Town or city.				
Venango.....	Oil City.....	First National Bank	173	\$300,000 00	\$180,000 00
Chester.....	Oxford.....	National Bank of Oxford.	728	125,000 00	112,500 00
Philadelphia.....	Philadelphia.....	First..... National Bank..	1	1,000,000 00	799,800 00
Do.....	do.....	Second..... do.....	213	300,000 00	250,000 00
Do.....	do.....	Third..... do.....	234	300,000 00	263,490 00
Do.....	do.....	Sixth..... do.....	352	300,000 00	135,000 00
Do.....	do.....	Seventh..... do.....	413	250,000 00	219,350 00
Do.....	do.....	Eighth..... do.....	522	275,000 00	245,750 00
Do.....	do.....	Farmers' and Mechanics' do.....	538	2,000,000 00	1,000,000 00
Do.....	do.....	Philadelphia..... do.....	539	1,500,000 00	1,000,000 00
Do.....	do.....	Penn..... do.....	540	500,000 00	180,000 00
Do.....	do.....	National Bank of Northern Liberties.	541	500,000 00	450,000 00
Do.....	do.....	Corn Exchange National Bank	542	500,000 00	450,000 00
Do.....	do.....	City..... do.....	543	400,000 00	360,000 00
Do.....	do.....	Kensington..... do.....	544	250,000 00	225,000 00
Do.....	do.....	National Bank of Germantown.	546	200,000 00	178,750 00
Do.....	do.....	do..... Commerce.....	547	250,000 00	217,250 00
Do.....	do.....	Commercial National Bank of Pennsylvania.	556	810,000 00	630,000 00
Do.....	do.....	Manufacturers' National Bank..	557	1,000,000 00	546,120 00
Do.....	do.....	Southwark..... do.....	560	250,000 00	223,450 00
Do.....	do.....	Consolidation..... do.....	561	300,000 00	270,000 00
Do.....	do.....	Union..... do.....	563	500,000 00	346,000 00
Do.....	do.....	Tradesmen's..... do.....	570	200,000 00	180,000 00
Do.....	do.....	Girard..... do.....	592	1,000,000 00	600,000 00
Do.....	do.....	Bank of North America.....	602	1,000,000 00	800,000 00
Do.....	do.....	Mechanics' National Bank.....	610	800,000 00	480,250 00
Do.....	do.....	Commonwealth National Bank.....	623	300,000 00	213,300 00
Do.....	do.....	Western..... do.....	656	400,000 00	216,000 00
Do.....	do.....	Central..... do.....	723	750,000 00	600,000 00
Do.....	do.....	National Bank of the Republic	1647	1,000,000 00	800,000 00
Do.....	do.....	do..... Security Bank.....	1743	250,000 00	180,000 00
Chester.....	Phoenixville.....	do..... Bank of Phoenixville.....	674	200,000 00	180,000 00
Do.....	do.....	Farmers' and Mechanics' National Bank	1936	150,000 00	135,000 00
Allegheny.....	Pittsburg.....	First..... do.....	48	500,000 00	270,000 00



Do.	do	Second	do	252	300,000 00	270,000 00
Do.	do	Third	do	291	500,000 00	356,800 00
Do.	do	Fourth	do	432	300,000 00	270,000 00
Do.	do	Merchants' and Manufacturers'	do	613	800,000 00	640,000 00
Do.	do	Citizens'	do	619	800,000 00	450,000 00
Do.	do	Pittsburg National Bank of Commerce	do	668	500,000 00	450,000 00
Do.	do	Iron City	National Bank	675	400,000 00	360,000 00
Do.	do	Tradesmen's	do	678	400,000 00	350,000 00
Do.	do	Farmers' Deposit	do	685	300,000 00	270,000 00
Do.	do	Mechanics'	do	700	500,000 00	447,750 00
Do.	do	Union	do	702	250,000 00	218,000 00
Do.	do	Allegheny	do	722	500,000 00	437,500 00
Do.	do	Peoples'	do	727	500,000 00	800,000 00
Do.	do	German	do	757	250,000 00	225,000 00
Do.	do	Exchange	do	1057	1,700,000 00	800,000 00
Do.	do	First	do	478	500,000 00	450,000 00
Do.	do	do	do	707	100,000 00	90,000 00
Do.	do	National Bank of Pottstown	do	608	300,000 00	270,000 00
Do.	do	Miners' National Bank	do	649	500,000 00	360,000 00
Do.	do	Government	do	1152	500,000 00	45,000 00
Do.	do	Pennsylvania	do	1663	100,000 00	90,000 00
Do.	do	First	do	125	100,000 00	87,000 00
Do.	do	National Union Bank	do	693	200,000 00	135,000 00
Do.	do	Farmers' National Bank	do	696	400,020 00	360,000 00
Do.	do	National Bank of Schwenksville	do	2142	50,000 00	45,000 00
Do.	do	First	National Bank	77	200,000 00	200,000 00
Do.	do	Second	do	49	300,000 00	290,000 00
Do.	do	Third	do	1946	200,000 00	90,000 00
Do.	do	Selinsgrove	do	357	100,000 00	90,000 00
Do.	do	Shamokin	do	689	67,000 00	60,300 00
Do.	do	Northumberland County	do	1685	125,000 00	87,500 00
Do.	do	Sharon	do	834	75,000 00	67,500 00
Do.	do	Shippensburg	do	2018	150,000 00	113,500 00
Do.	do	Spring City	National Bank of Spring City	42	100,000 00	99,000 00
Do.	do	Strasburg	First National Bank	1237	200,000 00	180,000 00
Do.	do	Sunbury	do	1053	100,000 00	90,000 00
Do.	do	Susquehanna Depot	do	1219	150,000 00	135,000 00
Do.	do	Tamaqua	do	879	300,000 00	265,750 00
Do.	do	Titusville	do	39	125,000 00	111,820 00
Do.	do	Towanda	do	797	100,000 00	85,000 00
Do.	do	Tremont	do	835	100,000 00	90,000 00
Do.	do	Tunkhannock	do	110	50,000 00	45,000 00
Do.	do	Union City	First National Bank of Union Mills	270	100,000 00	90,000 00
Do.	do	Uniontown	First National Bank			

## NATIONAL BANKS IN PENNSYLVANIA—CONTINUED.

LOCATION.		Title.	No.	Capital.	Circulation.
County.	Town or city.				
Fayette.	Uniontown	National Bank of Fayette county	681	\$100,000 00	\$90,000 00
Warren.	Warren	First.	520	100,000 00	90,000 00
Washington.	Washington	do.	586	150,000 00	135,000 00
Franklin.	Waynesboro'	do.	244	75,000 00	67,500 00
Greene.	Waynesburg.	Farmers' and Drover's	839	150,000 00	90,000 00
Tioga.	Wellsborough	First	328	100,000 00	90,000 00
Chester.	West Chester	do.	148	200,000 00	180,000 00
Do.	do.	National Bank of Chester county	552	225,000 00	202,500 00
Luzerne.	Wilkesbarre	First.	30	375,000 00	337,500 00
Do.	do.	Second.	104	450,000 00	400,000 00
Do.	do.	Wyoming.	732	150,000 00	135,000 00
Lycoming.	Williamsport.	First	175	284,950 00	255,000 00
Do.	do.	Lumbermans'	734	100,000 00	85,000 00
Do.	do.	Williamsport	1464	100,000 00	90,000 00
Do.	do.	West Branch.	1505	100,000 00	90,000 00
Do.	do.	City.	2139	100,000 00	85,500 00
York	Wrightsville.	First	246	150,000 00	134,430 00
Do.	York	do.	197	300,000 00	299,920 00
Do.	do.	York	604	500,000 00	448,700 00
Do.	do.	York County	694	300,000 00	269,900 00
				53,010,240 00	42,298,260 00

DIVIDENDS and earnings of the national banks in the State of Pennsylvania, and of those in Philadelphia and Pittsburg, with their ratios to capital and surplus fund, semi-annually, from March 1, 1869, to September 1, 1874, as reported to the Comptroller of the Currency.

## 6 STATISTICS.

	No. of banks.	Capital stock.	Surplus.	Dividends.	Net earnings.	RATIOS.		
						Dividends to capital.	Dividends to capital and surplus.	Earnings to capital and surplus.
Pennsylvania, for 6 months ending								
August 31, 1869.....	146	\$23,355,020 00	\$4,810,860 00	\$1,296,060 00	\$1,709,036 00	5.55	4.60	6.07
February 28, 1870.....	149	23,905,240 00	4,974,496 00	1,331,635 00	1,811,543 00	5.57	4.61	6.27
August 31, 1870.....	149	23,920,240 00	5,370,668 00	1,334,560 00	1,566,199 00	5.58	4.55	5.35
February 28, 1871.....	151	24,205,240 00	5,577,481 00	1,293,860 00	1,424,050 00	5.35	4.34	4.78
August 31, 1871.....	151	24,545,240 00	5,781,467 00	1,284,381 00	1,568,270 00	5.23	4.24	5.17
February 28, 1872.....	153	25,255,240 00	5,998,420 00	1,353,347 00	1,638,464 00	5.36	4.33	5.24
August 31, 1872.....	155	26,575,090 00	6,359,964 00	1,332,980 00	1,612,149 00	5.21	4.17	5.05
March 1, 1873.....	157	27,125,240 00	6,670,671 00	1,360,783 00	1,781,134 00	5.02	4.03	5.27
September 1, 1873.....	158	26,660,580 00	7,019,439 00	1,384,980 00	1,841,315 00	5.19	4.11	5.47
March 1, 1874.....	157	26,775,240 00	7,207,493 00	1,276,651 00	1,698,259 00	4.77	3.76	5.00
September 1, 1874.....	156	26,761,590 00	7,435,885 00	1,365,441 00	1,574,945 00	5.10	3.99	4.61
Philadelphia, for 6 months ending								
August 31, 1869.....	28	16,092,150 00	6,158,302 00	979,607 00	1,178,241 00	6.09	4.40	5.29
February 28, 1870.....	29	16,855,150 00	6,197,217 00	978,758 00	1,150,597 00	5.98	4.34	5.10
August 31, 1870.....	29	16,255,150 00	6,498,576 00	942,058 00	1,062,048 00	5.79	4.14	4.67
February 28, 1871.....	29	16,255,150 00	6,537,247 00	957,258 00	1,000,230 00	5.90	4.20	4.39
August 31, 1871.....	30	16,480,150 00	6,704,033 00	942,758 00	1,023,270 00	5.70	4.06	4.41
February 28, 1872.....	30	16,935,000 00	6,804,709 00	971,750 00	1,088,461 00	5.74	4.09	4.59
August 31, 1872.....	29	16,735,000 00	6,821,824 00	964,250 00	1,081,428 00	5.76	4.09	4.59
March 1, 1873.....	29	16,735,000 00	6,916,170 00	975,930 00	1,095,087 00	5.83	4.13	4.63
September 1, 1873.....	29	16,935,000 00	7,064,979 00	983,250 00	1,127,495 00	5.81	4.09	4.70
March 1, 1874.....	29	16,935,000 00	7,105,792 00	972,250 00	1,635,211 00	5.74	4.04	4.31



## DIVIDENDS AND EARNINGS OF THE NATIONAL BANKS, &amp; C.—Continued.

	No. of banks.	Capital stock.	Surplus.	Dividends.	Net earnings.	RATIOS.		
						Dividends to capital.	Dividends to capital and surplus	Earnings to capital and surplus
September 1, 1874 .....	29	\$16,935,000 00	\$7,189,152 00	\$970,500 00	\$1,079,087 00	5.73	4.02	4.48
Pittsburg, for 6 months ending								
August 31, 1869 .....	15	8,700,000 00	2,086,777 00	479,500 00	626,036 00	5.51	4.44	5.80
February 28, 1870 .....	15	8,700,000 00	2,171,125 00	447,500 00	561,630 00	5.14	4.12	5.17
August 31, 1870 .....	16	9,000,000 00	2,235,774 00	464,500 00	575,889 00	5.16	4.13	5.13
February 28, 1871 .....	16	9,000,000 00	2,237,158 00	463,500 00	561,177 00	5.15	4.10	4.97
August 31, 1871 .....	16	9,000,000 00	2,415,177 00	482,000 00	552,755 00	5.36	4.22	4.84
February 28, 1872 .....	16	9,000,000 00	2,481,622 00	487,000 00	557,482 00	5.41	4.24	4.86
August 31, 1872 .....	16	9,000,000 00	2,570,277 00	479,000 00	576,970 00	5.32	4.14	4.99
March 1, 1873 .....	16	9,000,000 00	2,595,443 00	498,000 00	512,236 00	5.53	4.30	4.42
September 1, 1873 .....	16	9,000,000 00	2,950,741 00	503,000 00	658,449 00	5.59	4.21	5.51
March 1, 1874 .....	16	9,000,000 00	2,983,604 00	459,000 00	524,024 00	5.10	3.83	4.37
September 1, 1874 .....	16	9,000,000 00	3,055,928 00	489,000 00	605,004 00	5.43	4.06	5.02

## RESOURCES AND LIABILITIES OF STATE BANKS.

NAMES.	RESOURCES.		LIABILITIES.	
	Aggregate of resources.	Capital stock actually paid in.	Deposits.	Aggregate of liabilities.
Ashland Savings Bank.....	\$95,975 18	\$20,200 00	\$69,803 53	\$95,975 18
Artisans' Deposit Bank.....	325,137 22	186,500 00	123,867 64	325,137 22
Ashley Savings Bank.....	48,951 60	18,885 00	21,058 64	48,951 60
Augusta Bank, Sunbury.....	33,521 10	24,975 00	3,223 09	33,521 10
Arsenal Bank, Pittsburg.....	220,488 92	54,440 00	143,661 15	220,488 92
Bank of America.....	548,612 40	22,565 00	255,587 03	548,612 40
Bank of Brandywine.....	236,422 25	100,000 00	75,099 49	236,422 25
Bank of Pittsburg.....	2,201,099 14	1,163,150 00	709,775 18	2,201,099 14
Butler Savings Bank.....	405,141 70	60,000 00	35,644 17	405,141 70
Braddock's Trust Company.....	60,718 44	26,911 00	.....	60,718 44
Carlisle Deposit Bank.....	642,391 78	100,000 00	503,585 22	642,391 78
Coopersburg Savings Institution.....	138,482 20	8,000 00	.....	138,482 20
Columbia Dime Savings Bank.....	115,346 02	30,000 00	31,030 97	115,346 92
City Deposit Bank and Trust Company, Pittsburg.....	187,237 62	49,975 00	130,339 03	187,237 62
Carbondale Miners' and Mechanics' Savings Bank.....	174,019 77	25,000 00	130,907 01	174,019 77
Citizens' Bank, Philadelphia.....	204,053 23	99,750 00	88,358 01	204,053 23
Citizens' and Miners' Trust Company Bank, Scranton.....	146,493 68	51,450 00	84,859 93	146,493 68
Dauphin Deposit Bank.....	816,231 56	50,000 00	725,901 79	816,231 56
Dime Savings Institution, Bethlehem.....	332,640 55	10,000 00	112,954 56	332,640 55
Dime Savings Institution, York.....	254,964 11	25,000 00	128,290 46	254,964 11
Dollar Savings Bank, Uniontown.....	270,677 34	25,000 00	226,039 80	270,677 34
Deposit and Savings Bank, Catawissa.....	101,127 84	50,000 00	41,283 08	101,127 84
Dollar Savings Bank, Waynesburg.....	49,705 26	25,000 00	4,216 40	49,705 26
Erie Dime Savings and Loan Company.....	772,014 17	45,000 00	689,507 42	772,014 17
Enterprise Savings Bank, Allegheny.....	157,757 16	81,800 00	72,810 01	157,757 16
Empire Trust Bank, Allentown.....	224,810 77	62,000 00	75,408 08	224,810 77
Franklin Savings Fund and Safe Deposit Company.....	46,733 38	18,935 00	28,653 35	46,733 38
Farmers' Savings Bank, Fogelsville.....	76,102 19	5,025 00	8,152 82	76,102 19
Farmers' and Mechanics' Bank, Shippensburg.....	290,691 94	63,700 00	203,428 23	290,691 94
Farmers' Bank, Carlisle.....	194,377 86	50,000 00	122,334 29	197,377 86
Franklin Savings Bank, Allentown.....	58,197 82	10,125 00	37,981 31	58,197 82
Farmers' and Mechanics' Bank, East Birmingham.....	310,654 43	156,200 00	124,214 88	310,654 43
Freehold Bank.....	1,119,608 55	200,000 00	869,204 65	1,119,608 55

# RESOURCES AND LIABILITIES OF STATE BANKS—CONTINUED.

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## FINANCIAL.

NAMES.	RESOURCES.		LIABILITIES.	
	Aggregate of resources.	Capital stock actually paid in.	Deposits.	Aggregate of liabilities.
Farmers' Bank, Harrisburg.....	\$318,910 19	\$76,225 00	\$230,603 79	\$318,910 19
Franklin Saving Fund Society, Philadelphia.....	973,277 25	21,260 00	853,332 51	973,277 25
Germania Savings Bank.....	622,318 85	100,600 00	467,255 92	622,318 85
Girard Savings Bank, Allentown.....	69,339 33	25,000 00	2,683 00	69,339 33
German Savings Institution, Erie.....	332,106 52	19,355 00	299,170 92	332,106 52
Hanover Saving Fund Society.....	579,378 40	50,000 00	50,357 60	579,378 40
Harmony Savings Bank.....	219,123 90	51,300 00	8,425 00	219,123 90
Humboldt Safe Deposit and Trust Company.....	272,691 00	19,977 50	210,276 07	272,691 00
Hazleton Savings Bank.....	149,222 60	31,000 00	97,947 19	149,222 60
Hyde Park Bank.....	150,626 70	31,819 63	94,027 15	150,626 70
Hamburg Savings Bank.....	84,150 93	10,000 00	68,692 30	84,150 93
Iron Bank, Philadelphia.....	65,075 05	50,000 00	7,589 05	65,075 05
Iron and Glass Dollar Savings Bank.....	219,460 02	100,000 00	104,968 15	219,460 02
Kutztown Savings Bank.....	37,789 25	6,000 00	21,743 64	37,789 25
Keystone Bank.....	424,266 60	200,000 00	201,418 66	424,266 60
Lebanon Dime Savings Bank.....	209,717 31	50,000 00	109,390 67	209,717 31
Littlestown Savings Institution.....	93,257 27	50,000 00	17,594 81	93,257 27
Lykens Valley Bank.....	151,809 78	59,800 00	43,596 64	151,809 78
Lycoming County Savings Bank.....	129,433 36	50,000 00	45,146 26	129,433 36
Masonic Deposit Savings Bank.....	641,688 37	200,000 00	317,103 57	641,688 37
Millers' and Miners' Bank.....	124,680 19	25,000 00	8,475 00	124,680 19
Miners' Savings Bank, Wilkesbarre.....	485,040 29	150,000 00	300,063 35	485,040 29
Miners' Savings Bank, Pittston.....	304,631 89	30,000 00	225,195 93	304,631 89
Merchants' and Mechanics' Bank, Scranton.....	593,315 36	250,000 00	243,770 93	593,315 36
Manayunk Bank.....	316,344 70	50,000 00	202,666 82	316,344 70
Merchants' Bank, Easton.....	480,084 56	187,605 00	256,520 62	480,084 56
Miners' Trust Company Bank.....	1,396,003 50	100,000 00	1,282,376 41	1,396,003 50
Miners' Deposit Bank, Lykens.....	131,067 92	30,000 00	32,298 68	131,067 92
Mountain City Bankings Company.....	249,017 03	58,300 00	160,913 11	249,017 03
Mount Carmel Savings Bank.....	104,463 94	50,000 00	31,869 86	104,463 94
Miners' Trust and Safe Deposit Company, Shamokin.....	160,451 37	25,650 00	111,811 19	160,451 37
Monongahela Savings Bank.....	130,709 96	60,141 00	66,416 70	130,709 96
Miners' Savings Bank, Summit Hill.....	66,178 57	25,087 50	33,800 50	66,178 57



Myerstown Bank.....	54,942 78	24,950 00	12,884 33	54,942 78
Newtown Banking Company.....	175,606 99	100,000 00	40,300 16	175,606 99
Nation's Bank for Savings.....	118,903 27	54,000 00	61,871 31	118,903 27
North Lebanon Savings Bank.....	78,036 38	20,000 00	21,479 56	78,036 38
Odd Fellows' Savings Bank.....	248,186 01	120,000 00	118,309 02	248,186 01
Oxford Banking Company.....	156,841 46	75,450 00	33,107 22	156,841 46
People's Savings Bank, Pittsburg.....	949,603 85	300,000 00	581,892 89	949,603 85
People's Bank, Philadelphia.....	1,472,108 04	100,000 00	1,197,995 76	1,472,108 04
People's Savings Institution, North-East.....	78,001 67	10,111 25	58,120 99	78,001 67
People's Savings Bank, Pittston.....	118,006 51	56,250 00	53,869 16	118,006 51
Pittston Trust Company and Savings Bank.....	113,386 49	50,000 00	57,784 00	113,386 49
Plymouth Savings Bank.....	75,848 56	25,000 00	38,817 39	75,848 56
People's Bank, Wilkesbarre.....	192,624 41	125,000 00	49,835 30	192,624 41
Penn Bank, Pittsburg.....	354,235 34	150,585 00	.....	354,235 34
People's Bank, Carmichaels.....	87,798 00	59,600 00	26,058 00	87,798 00
Quakertown Savings Bank.....	269,963 06	10,000 00	16,500 00	269,963 00
Reading Savings Bank.....	1,367,466 03	50,000 00	1,280,090 26	1,367,466 03
Real Estate Savings Bank, Harrisburg.....	821,015 71	8,200 00	749,447 14	821,015 71
Real Estate Savings Bank, Harrisburg.....	64,139 46	12,500 00	47,140 58	64,139 46
Safe Deposit Bank of Pottsville.....	707,549 81	100,000 00	556,623 69	707,549 81
Stroudsburg Bank.....	232,542 86	89,855 50	123,020 23	232,542 86
Sheraton Savings Bank.....	420,339 79	50,000 00	309,966 15	420,339 79
Shrewsbury Savings Institution.....	152,803 74	15,000 00	132,480 43	152,803 74
State Bank, Harrisburg.....	343,446 70	48,000 00	261,857 25	343,446 70
Seranton Trust Company and Savings Bank.....	1,156,551 98	99,500 00	925,835 51	1,156,551 98
Saucon Savings Bank.....	141,400 77	20,000 00	62,397 86	141,400 77
State National Bank, Philadelphia.....	224,102 95	100,000 00	83,739 34	224,102 95
Shoe and Leather Savings Bank.....	289,854 33	18,489 00	69,210 94	289,854 33
South Side Savings Bank, East Birmingham.....	312,928 51	161,566 69	128,466 60	312,928 51
Shackamaxon Bank, Philadelphia.....	219,415 15	72,150 00	127,224 29	219,415 15
Savings and Deposit Bank, Annville.....	43,920 63	25,000 00	14,163 67	43,920 63
Savings Bank, Franklin.....	128,981 76	50,000 00	72,798 24	128,981 76
Spring Garden Deposit and Savings Bank.....	337,902 78	116,865 00	207,599 43	337,902 78
Twenty-Second Ward Bank, Philadelphia.....	151,646 72	100,000 00	38,121 77	151,646 72
Tenth Ward Bank, Pittsburg.....	256,747 12	80,815 62	28,124 79	256,747 12
Tamaqua Banking and Trust Company.....	163,507 43	59,950 00	83,561 37	163,507 43
Union Banking Company.....	170,650 37	84,950 00	66,489 69	170,650 37
United States Bank, Pittsburg.....	88,503 81	15,000 00	60,219 90	88,503 81
United Savings Bank of East Pennsylvania.....	131,604 50	50,950 00	501 51	131,604 50
United States Banking Company, Philadelphia.....	142,739 23	56,833 35	79,681 93	142,739 23
Union Savings and Deposit Bank, Pittsburg.....	133,837 83	76,900 00	58,113 33	133,837 83
Western Savings Bank.....	219,736 90	64,100 00	132,879 89	219,736 90
West Philadelphia Bank.....	.....	.....	.....	.....

## RESOURCES AND LIABILITIES OF STATE BANKS (CONTINUED).

NAMES.	RESOURCES.		LIABILITIES.	
	Aggregate of resources.	Capital stock actually paid in.	Deposits.	Aggregate of liabilities.
Warren Savings Bank.....	\$203,767 07	\$12,500 00	\$169,481 31	\$203,767 07
Wilkesbarre Savings Bank.....	298,191 49	100,000 00	186,497 00	298,191 49
Wilkesbarre Deposit and Savings Bank.....	372,204 08	150,000 00	205,827 52	372,204 08
White Haven Savings Bank.....	54,088 71	6,250 00	43,466 72	54,088 71
Wayne County Savings Bank.....	282,557 05	50,000 00	192,741 23	282,557 05
Wood's Run Saving Fund.....	105,316 07	43,168 81	49,773 21	105,316 07
Watson town Bank.....	153,853 78	100,000 00	47,638 31	153,853 78
Waynesboro' Bank.....	129,112 98	50,000 00	27,975 54	129,112 98
Youghiogheny Bank.....	35,732,020 98	8,370,168 85	20,961,201 94	35,732,020 98

THIRTY-EIGHTH SEMI-ANNUAL REPORT OF THE DOLLAR SAV-  
INGS BANK.124 *Fourth Avenue, Pittsburg, Pa.*

## LIABILITIES.

Amount due depositors, June 1, 1874.....	\$3,641,265 95
Dividends due June 1, 1874.....	99,465 67
Contingent fund, June 1, 1874.....	197,203 86
Total liabilities.....	\$3,937,935 48

## ASSETS.

Loans on bonds and mortgages.....	\$2,830,324 97
Mortgage interest due.....	9,780 00
Bills receivable.....	4,000 00
Stock in Pittsburg banks.....	71,634 04
U. S. 5-20 bonds, 1868.....	250,000 00
U. S. 6 per cent. bonds, 1881.....	50,000 00
U. S. 6 per cent. currency bonds.....	250,000 00
Pittsburg 7 per cent. water extension bonds,	50,000 00
Real estate.....	141,452 39
Bank furniture, safe, &c.....	12,611 79
Cash in banks and on hand.....	268,132 29
Total assets.....	\$3,937,935 48

Present number of depositors 9,375, averaging \$399 01 each.

The undersigned auditing committee respectfully report that they have examined the treasurer's report for the last six months, ending May 31, 1874, and have examined the assets of the bank, consisting of bonds and mortgages, deeds of real estate, certificates of bank stock, bills receivable, U. S. 5-20 bonds, 1868, U. S. 6 per cent. bonds, 1881, U. S. 6 per cent. currency bonds, Pittsburg water extension bonds, and the cash in bank and on hand, and find the same to correspond with the above report.

J. J. GILLESPIE,  
JAMES D. KELLY,  
H. J. LYNCH,  
GEO. D. BRUCE,

*Auditing Committee.*

PITTSBURG, *June 9, 1874.*

The trustees have declared a dividend of three (3) per cent. for the last six months, ending May 31, 1874, free of government tax, and payable forthwith. If not drawn will bear interest from 1st inst.

CHAS. A. COLTON, *Treasurer.*

PITTSBURG, *June 19, 1874.*



## RAILROADS.

[No. 1]

TABLE of railroads owned, leased or operated by the Pennsylvania railroad, prepared from reports for 1873.

NAME OF COMPANY.	Length in miles of main line laid .....	Length in miles of main line and branches laid in Pa.	Cost of road and equipment.....	Number of passen- gers carried.....	Number of tons of freight moved.....	Gross earnings.....	Expenses .....	Dividends.....
Allegheny Valley.....	132.	262.50	\$12,332,317 39	861,239	1,778,638	\$2,628,470 92	\$1,844,444 60	8
Bald Eagle Valley.....	51.19	53.69	1,050,000 00	*	*	*	*	
Bedford and Bridgeport.....	38.70	50.	1,412,182 60	*	*	*	*	
Bellefonte and Snow Shoe.....	21.20	21.20	458,181 33	18,323	109,110	229,788 19	62,201 57	75 c.
Buffalo, Corry and Pittsburg.....	43.20	6.	14,999 65	65,542	109,325	169,989 01	292,486 96	
Chartiers.....	22.80	22.80	1,128,690 01	107,209	14,548	61,193 09	42,038 16	
Cleveland and Pittsburg.....	167.	47.	15,571,299 78	703,829	1,981,538	3,740,384 15	1,813,730 61	7.10
Columbia and Port Deposit.....	5.	25	1,096,042 47	*	*	*	*	
Connecting.....	6.78	6.78	2,278,300 00	*	*	*	*	6
Cumberland Valley.....	82.20	68.30	1,753,613 46	321,515	393,128	614,184 99	266,739 43	8
Danville, Hazleton and Wilkesbarre.....	45.	45.	1,102,600 00	*	*	*	*	
East Brandywine and Waynesburg.....	17.50	17.50	360,351 45	*	*	*	*	
Ebensburg and Cresson.....	11.	11.	122,000 00	*	*	*	*	
Elmira and Williamsport.....	78.	70.	2,620,000 00	115,890	523,286	698,202 53	551,751 50	5.7
Eric and Pittsburg.....	81.50	81.50	4,939,344 52	236,659	1,025,392	1,666,423 50	678,846 63	7
Harrisburg, Portsmouth, Mt. Joy and Lancaster.....	36.	54.	1,882,550 00	*	*	*	*	7
Huntingdon and Broad Top Mountain.....	45.	58.75	4,154,801 27	71,869	617,240	431,107 47	309,239 79	
Junction.....	4.62	4.62	898,324 25	275,014	No acc't.	151,133 08	79,020 76	
Lawrence.....	17.80	11.10	715,937 88	78,053	337,677	189,361 44	113,088 76	10
Lewistown, Centre and Spruce Creek.....	19.	19.	1,256,545 44	*	*	*	*	
Mifflin and Centre County.....	12.50	12.50	265,075 89	*	*	*	*	
New Castle and Peaver Valley.....	11.97	14.97	810,480 54	171,711	647,273	349,978 40	160,284 22	10

	1.10	1.10	22, 657, 31	813, 561	2, 169, 217	3, 250, 722 87	2, 299, 421 65	.....
Newry .....	1.38	102.	15, 429, 883 90	445, 707	2, 556, 546	1, 067, 733 96	696, 441 92	6
Northern Central .....	95.	123.	9, 623, 963 51	5, 879, 684	9, 211, 231	24, 886, 008 90	15, 276, 307 83	†10
Oil Creek and Allegheny River .....	354.90	437.90	48, 279, 666 09	*	*	*	*	.....
Pennsylvania .....	41.50	22.50	2, 502, 000 00	777, 273	2, 164, 246	3, 842, 067 20	3, 388, 255 16	.....
Pennsylvania and Delaware .....	287.60	287.60	23, 644, 262 00	1, 747, 216	1, 400, 983	1, 995, 605 98	1, 533, 663 24	.....
Philadelphia and Erie .....	26.60	26.60	1, 534, 478 76	2, 331, 722	1, 500, 023	2, 992, 028 67	1, 979, 618 63	10
Philadelphia and Trenton .....	94.91	17.81	11, 814, 765 89	638, 855	1, 447, 957	3, 836, 598 00	3, 292, 684 96	8
Philadelphia, Wilmington and Baltimore .....	193.	35.25	19, 682, 344 34	2, 107, 268	2, 316, 568	9, 605, 707 14	6, 196, 517 08	7
Pittsburg, Cincinnati and St. Louis .....	468.30	49.	28, 412, 353 00	140, 188	4, 828	67, 137 11	48, 581 86	.....
Pittsburg, Ft. Wayne and Chicago .....	30.	30.	1, 143, 393 57	47, 865	45, 569	350, 487 11	185, 701 29	6
Pittsburg, Virginia and Charleston .....	28.	28.	1, 208, 050 00	17, 624	56, 617	43, 819 92	47, 216 34	.....
Shamokin Valley and Pottsville .....	17.78	17.78	386, 480 63	19, 773	517, 228	324, 313 73	86, 892 76	6
South Mountain Iron Company's .....	10.30	10.30	455, 445 46	*	*	*	*	.....
Stony Creek .....	20.	20.50	988, 902 37	*	*	*	*	.....
Summit Branch .....	43.50	43.50	1, 900, 000 00	*	*	*	*	.....
Sunbury and Lewistown .....	40.80	52.50	823, 566 98	*	*	*	*	.....
Tyrone and Clearfield .....	57.10	84.60	3, 950, 872 11	*	*	*	*	.....
Western Pennsylvania .....	2, 901.35	2, 328.40	228, 028, 723 76	17, 993, 589	27, 928, 168	62, 672, 447 36	41, 247, 175 11	.....

\*Included in returns of Pennsylvania railroad.

†Cash per share.

‡5 per cent. cash, 5 per cent. scrip.

## RAILROADS.

[No. 2.]

TABLE of railroads owned, leased or operated by the Philadelphia and Reading R. R. Co., prepared from reports for 1873.

NAME OF COMPANY.	Length in miles of main line laid .....	Length in miles of main line and branches laid in Pa.	Cost of road and equipment.....	Number of passen- gers carried.....	Number of tons of freight moved.....	Gross earnings.....	Expenses .....	Dividends.....
Allentown .....	4.50	4.50	\$1,078,438 82	*	*	*	*	3 $\frac{1}{2}$
Catawissa .....	94.	98.50	6,126,500 00	*	*	*	*	12
Chester Valley .....	21.50	21.50	1,371,000 00	*	*	*	*	6
Chestnut Hill .....	4.12	4.12	120,650 00	*	*	*	*	6
Colebrookdale .....	12.80	12.80	667,126 78	*	*	*	*	7
East Mahanoy .....	7.54	11.11	392,550 00	*	*	*	*	10
East Pennsylvania .....	36.	36.	1,484,290 12	*	*	*	*	7 $\frac{1}{2}$
Little Schuylkill Navigation and coal company..	28.25	31.25	1,416,187 80	*	*	*	*	12
Mill Creek and Mine Hill nav. and R. R. co.....	3.80	3.80	323,375 00	*	*	*	*	
Mine Hill and Schuylkill Haven.....	42.50	42.50	3,992,050 00	*	*	*	*	
Mount Carbon and Port Carbon .....	2.50	2.50	282,815 45	*	*	*	*	
Perkiomen .....	23.80	23.80	1,388,700 26	*	*	*	*	
Philadelphia and Reading .....	98.40	927.	49,319,348 89	6,790,088	11,932,262	14,832,630 68	7,101,070 14	10
Philadelphia, Germantown and Norristown .....	20.	32.25	1,514,800 01	*	*	*	*	12
Pickering Valley .....	11.30	11.30	474,551 54	*	*	*	*	
Plymouth .....	9.25	9.25	274,495 19	*	*	*	*	
Reading and Columbia.....	40.	48.	2,292,999 73	138,771	382,399	310,517 01	213,499 92	
Schuylkill Valley navigation and railroad co.....	11.	11.	576,840 94	*	*	*	*	5
	471.26	731.18	73,096,720 53	6,928,859	12,314,661	15,143,177 69	7,314,570 06	

\*Included in the returns of the Philadelphia and Reading railroad.



[No. 3.]  
TABLE of railroads not controlled by the Pennsylvania or Philadelphia and Reading railroad companies

NAME OF COMPANY	Length in miles of main line laid	Length in miles of main line and branches laid in Pennsylvania	Cost of road and equipment	No. of passengers carried	No. of tons of freight moved	Gross earnings	Expenses	Dividends
Atlantic and Great Western	387.50	92.00		975,646	2,712,665	\$5,355,480.13	\$9,571,461.32	
Barclay coal company, (leased to Towanda coal company)	16.00			25,347	344,968	31,966.97	113,353.41	6
Berks County	5.50							
Buffalo, Bradford and Pittsburg, (leased to Erie railway company)	26.00	18.00	\$2,889,000.00	24,760	158,836	394,362.61	319,716.84	
Buffalo, New York and Philadelphia	120.55	41.00	3,405,935.84	2,765		13,815.50	5,067.66	
Bachman's Valley	9.00	9.00	3,408,277.80	1,181	29,281	10,914.52	1,469.72	
Bell's Gap	8.75	8.75	212,868.06	24,470	353,630	130,486.21	90,030.56	6
Carasauqua and Fogelsville	20.00	25.50	742,136.64					
Castler Creek, (leased to Philadelphia and Baltimore Central)	7.25	7.25	370,000.00		301,794	76,839.61	27,423.21	16
Cornwall	7.47	8.97	421,492.85	93,662	1,080,222	128,833.20	319,480.12	3 1/2
Corning, Cowanesque and Antrim	53.00	37.16	1,600,000.00					
Chester Creek and Brandywine	11.00	11.00	318,313.34					
Cowanesque Valley, (leased to Wellsboro' and Lawrenceville railroad company)	45.00	45.00	4,376,125.73	141,561	2,811,594	125,656.34	958,621.14	
Delaware and Hudson canal	115.00	195.00	21,221,354.12	223,113	4,448,739	6,248,465.33	2,748,162.46	10
Delaware, Lackawanna and Western	7.55	7.50	170,656.94			1,936.15	2,213.92	
Dillsburg and Mechanicsburg, (leased to Cumberland Valley railroad)				13,970	11,932	31,144.45	22,709.16	
Dunkirk, Warren and Pittsburg	96.60	48.30	1,500,000.00	110,000	34,963	195,644.29	173,738.37	
Dunkirk, Allegheny Valley and Pittsburg	450.00	12.50	111,630,692.26	3,922,136	6,312,702	24,612,636.51	13,440,642.32	2 1/2
Erie	11.66	11.66	564,618.73	9,643	3,835	9,209.51	6,093.52	
East Broad Top			1,163.06					8
Edgemoor			130,000.00					3
Essex County, (leased to Pittsburg and Connellsville railroad company)	12.05	12.06	130,457.07					10
Frankford and Holmesburg, (leased to Philadelphia and Trenton railroad company)	4.15	4.15	288,357.60	39,854	170,274	166,363.76	65,869.40	
Hanover Branch	12.29	12.29	269,250.00					
Harrisburg and Potomac	6.75	36.75						
Homer, Cherrytree and Susquehanna			13,201.24					
Honiton	11.00	11.00	268,000.00	89,879	100,178	35,902.24	21,287.95	
Jamestown and Franklin	51.00	52.50	1,301,667.43					
Jersey Shore, (leased to Erie railway company)	17.00	17.00	1,365,700.00					
Lawrenceville and Exeter, (narrow gauge)			647,000.00					
Lake Shore and Michigan Southern	2.61	2.61	33,181.25					
Lancaster and Reading	511.00	14.00	75,949,742.89	2,631,669	5,620,429	19,289,395.84	13,863,872.67	8,10
Lancaster and Lackawanna	15.00	15.00	105,733.28					
Lehigh and Susquehanna	105.00	138.25	673,160.00	20,673	11,167	62,386.63	28,710.91	
Lehigh Valley	101.00	231.77	12,754,365.17	511,300	3,403,372	1,311,250.17	3,417,816.79	10
Little Saw Mill Run	3.00	3.00	20,489,162.45	1,096,829	6,868,829	6,710,354.57	3,884,859.97	10
Littlestown	9.50	9.50	123,127.04	13,716	52,732	46,228.13	33,188.98	6

TABLE OF RAILROADS—CONTINUED

NAME OF COMPANY.	Length in miles of main line laid.....	Length in miles of main line and branches laid in Pennsylvania.....	Cost of road and equipment.	No. of passengers carried.	No. of tons of freight moved.....	Gross earnings.....	EXPENSES	Dividends
Lake Erie Valley, (leased to Summit Branch railroad company).....	20.00	20.50	\$505,767 24					10.1
Ligonier Valley.....	9.60	9.60	43,888 43					
Mont Pleasant and Broad Top, (leased to Pittsburg and Connellsville railroad co.).....	10.50	10.50	152,613 85					
Mont Alto.....	10.50	10.50	235,000 00					
Muncy Creek.....	6.00	6.00	130,360 00					
Montrose, (narrow gauge).....	25.00	25.00	321,100 25					
Monongahela Inclined Plane.....	7.00	7.00	123,162 17					
Monongahela Valley, (leased to Lehigh coal and navigation company).....	12.00	12.00	76,442 20					
Neshaminy Valley.....	16.50	17.50	1,265,684 44					
North Pennsylvania.....	55.60	69.70	8,459,576 47					
North-East Pennsylvania.....	7.30	7.30	228,384 73					
New Castle and Franklin.....	23.30	23.30	551,969 56					
Peach Bottom.....	8.00	8.00	223,538 16					
Pennsylvania coal.....	47.00	62.87	2,000,000 00					
Pennsylvania and New York canal and railroad company.....	104.55	129.88	6,142,827 11					
Pennsylvania Petroleum.....	5.00	5.00	750,000 00					
Philadelphia and Baltimore Central.....	46.00	36.75	1,988,850 55					
Philadelphia, Newtown and New York.....	3.00	3.00	449,490 00					
Pitt-Hole Valley.....	7.00	7.00	101,761 67					
Pittsburg and Connellsville.....	145.00	143.90	12,644,274 67					
Parker and Kears City, (narrow gauge).....	4.00	4.00	147,761 22					
Pittsburg and Castle Shannon.....	6.00	7.41	454,426 83					
Pennsylvania Inland.....	35.00	35.00	3,500 00					
Philadelphia and Chester County.....			61,577 65					
People's Freight.....								
Salisbury and Baltimore.....			89,388 67					
Sellinsgrove and North Branch.....			2,400 00					
Shenango and Allegheny.....	31.12	31.12	1,178,162 21					
Somerset and Mineral Point.....	9.10	9.10	140,000 00					
South Mountain.....			489,550 00					
South Pennsylvania.....								
southern Pennsylvania railway and mining company.....	21.00	23.00	978,750 00					
Southwark, (leased to Philadelphia, Wilmington and Baltimore railroad company).....	1.72	1.72	58,468 00					
Sullivan and Erie, (operated by Pennsylvania and New York canal and railroad co.).....	24.00	24.00	1,597,718 14					6
Susquehanna, Gettysburg and Potomac.....	17.00	17.00	181,000 00					
South-West Pennsylvania, (leased to Pennsylvania railroad company).....	24.30	24.30	963,837 00					
State Erie and Juniata.....			33,325 31					
Sherman's Valley.....								
Spring Brook.....	5.00	5.00	39,800 00					
Toga.....	30.60	30.60	1,354,301 52					
Tresekow, (operated by Lehigh and Susquehanna railroad).....	650.00	650.00	293,730 47					

Colonian and West Virginia.....	9.00	9.00	205,486 79	871,398	94,235	362,789 43	\$184,429 32	4
West Chester, leased to West Chester and Philadelphia railroad company.....	25.30	26.30	1,694,932 49	52,926	11,521	47,364 79	44,866 31	
West Chester and Philadelphia.....	32.00	18.00	57,520 39	132,055	301,084	35,219 24	228,846 16	
West Chester and Pottsville.....		59.87	3,329,089 31	39,308	20,030		37,859 55	
Whiting, Pottsville and Baltimore.....		2.31	796,516 51					
Wicox and Howard Hill improvement company.....	63.60							
Winnington and Reading.....	19.92							
Winnington and Western.....	3,234.78	2,169.03	324,186,004 27	14,619,140	41,643,912	67,542,707 96	48,752,291 10	

\*Scip.



[No. 4.]  
TABLE of canals, compiled from reports of companies for 1873.

NAME OF COMPANY.	Length of line and branches.	Cost of canal and fix- tures.	Gross amount of ton- nage.	Gross earnings.	Expenses.	Dividends.
Delaware and Hudson.	108 1/2	\$5,339,210 49	1,605,959	\$75,374 05	\$125,927 61	10
Delaware Division, (leased to Lehigh Coal and navigation company.	60	2,433,350 00				8
Lehigh coal and navigation.	48	3,000,000 00	993,390	580,224 79	127,269 81	
Monongahela navigation.	85	1,151,904 00		207,456 55	36,424 41	9
Muncy.	3 1/2	6,846 18		60 00	68 40	
Pennsylvania.	360	Unknown.	870,121	559,557 28	59,898 58	
Schuylkill navigation.	109	12,903,247 11	1,113,100	789,199 34	93,433 83	3 1/2
Susquehanna.	45	4,797,471 27	325,083	87,697 41	19,697 85	
Union.	78	3,907,850 00	119,305	43,348 60	9,143 25	
West Branch and Susquehanna, (sold to Pennsylvania canal co.)						
	[893 1/2]	36,539,879 05	5,026,958	2,342,918 02	471,863 74	

[No. 5.]  
 TABLE of Passenger Railways, compiled from reports of companies for 1873.

NAME OF COMPANY.	Miles of road laid...	Cost of road and equipment	Number of passengers carried.....	Gross earnings.....	Expenses.....	Dividends.....
Allentown.....	3.42	\$36,095 74	121,346	\$11,625 45	\$12,938 40	*10
Citizens', Philadelphia.....	7.75	220,319 42	4,417,637	300,144 88	204,260 75	†87 00
Citizens', Pittsburgh.....	5.55	184,333 07	2,881,428	173,958 13	107,751 56	16
Coalville, Luzerne county.....	2.87	46,091 50	109,409	11,463 46	7,615 39	8
Easton and South Easton.....	1.36	25,962 50	166,377	9,560 35	7,894 76	.....
Empire, Philadelphia.....	7.75	106,000 00	2,014,662	120,971 20	102,732 14	.....
Erie City.....	2.	36,996 98	316,689	16,395 13	11,839 28	.....
Federal Street and Pleasant Valley, Allegheny county.....	3.	123,171 15	925,990	52,160 14	37,587 83	.....
Frankford and Southwark, Philadelphia.....	16.22	884,113 26	6,084,421	412,324 84	320,849 14	10
German town.....	25.	723,839 30	1,225,383	405,613 75	307,729 98	6
Green and Coates Street, Philadelphia.....	7.	244,441 56	2,905,989	189,824 95	135,496 21	†\$4 00
Harrisburg City.....	2.	60,249 55	.....	5,425 18	6,325 28	.....
Hestonville, Mantua and Fairmount.....	11.	391,786 69	5,266,951	295,548 56	225,965 32	†90
Lombard and South Street.....	4.51	173,958 98	1,578,000	109,369 47	68,118 67	†\$1 25
People's Street, Luzerne county.....	9.50	142,121 03	418,600	32,841 74	29,304 52	4
People's, Schuylkill county.....	6.	113,402 10	338,692	23,723 08	18,494 82	.....
Philadelphia City.....	7.	517,735 40	5,692,515	362,109 13	243,413 12	†\$5 00
Philadelphia and Darby.....	5.04	321,058 48	.....	.....	.....	8
Philadelphia and Gray's Ferry.....	10.36	299,126 68	2,648,477	125,257 06	88,205 28	†\$2 50
Pittsburg, Allegheny and Manchester.....	4.75	170,308 49	2,949,642	157,990 30	112,300 36	10
Pittsburg and Birmingham.....	3.25	143,514 69	1,310,329	99,630 01	75,597 40	.....
Pittsburg, Oakland and East Liberty.....	2.	125,548 81	340,406	22,196 11	27,911 09	.....
Pittsburg and Ormsby.....	2.21	81,851 13	614,466	33,880 47	47,353 33	.....
Ridge Avenue, Philadelphia.....	13.70	414,834 10	4,100,000	255,077 96	234,006 93	†\$1 50
Schuylkill River.....	3.11	47,463 54	.....	.....	.....	10
Second and Third Street, Philadelphia.....	36.	787,203 10	8,200,000	544,219 42	374,598 14	10
Seventeenth and Nineteenth Street, Philadelphia.....	6.75	191,656 85	2,707,401	181,112 15	133,527 67	†\$2 00

## PASSENGER RAILWAYS.

## PASSENGER RAILWAYS, &amp; C.—Continued.

NAME OF COMPANY.	Miles of road laid...	Cost of road and equipment .....	Number of passengers carried.....	Gross earnings.....	Expenses .....	Dividends.....
Thirteenth and Fifteenth Street, Philadelphia .....	9.25	\$250,174 58	3,272,563	\$175,084 61	\$140,420 10	\$1 50
Union, Philadelphia.....	32.	1,032,514 66	10,357,196	682,773 24	444,841 00	†6 00
Union Street, Warren .....	1.	17,000 00	.....	1,565 87	1,700 00	.....
West Philadelphia .....	11.50	595,848 36	8,300,000	462,920 06	332,269 13	16
Wilkesbarre and Kingston.....	4.12	94,833 37	311,500	24,784 06	13,667 00	8
Williamsport .....	2.15	41,715 35	277,387	13,869 42	10,192 36	.....
	269.12	8,645,270 42	79,854,256	5,313,420 18	3,884,929 96	.....
		† Per share.				
		‡ Stock.				



[No. 6.]  
TABLE of *Telegraph Lines, compiled from reports of companies for 1873.*

NAME OF COMPANY.	Length of main line in miles .....	Length of line in miles in Pa. ....	Cost of line and equipment.....	No. messages sent during year in Pa..	No. messages re- ceived during year in Pa .....	Gross receipts in Pa.	Gross expenses in Pa.	Dividends.....
Atlantic and Ohio, (leased to Western Union company) ..	280	50	*\$650,000 00	No record	No record	No account.	No account.	
Automatic .....	32	32	Unknown.	No record	No record	No account.	No account.	
American District .....	73	73	18,631 86	No record	No record	No account.	No account.	
Erie County .....	73	73	25,000 00	No record	No record	No account.	No account.	
Franklin .....	752	32	590,000 00	14,000	22,599	\$6,513 77	\$1,519 06	
Pacific and Atlantic .....	4,525	875	2,050,286 26	64,550	83,938	22,900 00	21,500 00	
Philadelphia Local .....	210	210	400,000 00	260,166	222,875	157,000 00	170,000 00	
Philadelphia, Reading and Pottsville. ....	101	724	166,589 55	240,916	180,700	126,782 47	117,784 29	
Western Union .....	66,500	4,500	*41,073,400 00	151,795	151,795	44,331 08	52,205 82	
	72,478	6,496	44,973,907 67	No record	No record	No account.	No account.	
				721,427	665,907	359,673 59	363,009 17	

\*Capital stock paid in—Cost unknown.

†Estimated.

## EDUCATIONAL.

STATISTICS of Churches in the State of Pennsylvania, showing the number of edifices, accommodation and valuation of property held by each denomination.

NAME.	EDIFICES.			ACCOMMODATION.			PROPERTY.		
	1850.	1860.	1870.	1850.	1860.	1870.	1850.	1860.	1870.
All denominations.....	3,566	5,337	5,668	1,574,873	2,112,920	2,332,288	\$11,588,115	\$22,581,479	\$52,758,384
Presbyterian.....	788	997	1,008	364,406	431,763	423,850	\$2,602,800	\$4,835,760	\$12,113,750
Methodist.....	902	1,578	1,271	342,226	547,782	446,463	1,727,138	3,669,953	7,510,675
Episcopal (Protestant).....	136	203	234	67,574	98,917	94,182	1,483,700	2,926,700	6,703,067
Roman Catholic.....	139	271	319	89,231	152,926	197,115	1,084,204	2,933,440	6,675,050
Lutheran.....	499	730	841	262,702	290,547	339,128	1,682,656	2,399,637	6,474,022
Reformed Church in U. S., (late Ger. Ref'd.)	209	474	657	105,562	193,482	270,835	648,110	1,831,425	3,746,320
Baptist, (regular).....	320	402	371	128,458	149,709	178,210	811,195	1,434,320	3,157,500
Friends.....	142	141	118	61,274	61,585	43,725	62,287	1,293,750	1,764,700
Evangelical Association.....	8	.....	233	2,300	.....	80,545	8,800	.....	712,800
Jewish.....	8	12	14	3,425	3,295	7,750	45,700	154,300	681,000
Christian.....	22	69	69	7,050	21,960	27,500	24,400	115,240	584,100
Baptist, (not regular).....	99	208	218	30,330	70,070	110,100	94,400	258,741	537,800
United Brethren in Christ.....	14	.....	183	4,650	.....	60,860	18,600	.....	489,300
Moravian, (Unitas Fratrum).....	84	23	16	32,715	11,750	9,000	221,350	139,750	401,000
Congregational.....	18	34	36	5,200	11,081	14,450	31,300	68,850	318,200
Reformed Ch. in America, (late Dutch Ref.)	10	11	10	6,140	5,750	5,300	96,700	185,250	298,000
Universalist.....	21	27	18	9,483	11,200	6,725	86,800	136,400	288,500
New Jerusalem, (Swedenborgian).....	4	10	7	1,600	8,000	1,950	13,200	71,000	78,000
Unitarian.....	4	3	.....	1,630	1,250	2,050	28,000	26,200	68,800
Miscellaneous.....	28	.....	7	10,697	.....	2,500	92,900	.....	63,200
Unknown, (Union).....	106	144	27	36,650	46,753	7,450	93,375	161,993	51,900
Unknown, (Local Mission).....	3	.....	4	2,000	.....	1,875	26,800	.....	28,500
Second Advent.....	2	4	3	550	900	725	1,700	1,470	11,500
Mormon.....	.....	1	.....	.....	200	.....	.....	1,300	.....

*NEWSPAPER and Periodical circulation in the United States.*

YEAR.	Newspapers and periodicals.	Copies annually printed.	Population.
1704 .....	1	16,000	600,000
1725 .....	4	170,000	1,000,000
1775 .....	37	1,200,000	2,800,000
1810 .....	359	22,321,700	7,239,814
1828 .....	852	68,117,796	12,000,000
1835 .....	1,258	90,361,000	14,000,000
1840 .....	1,631	995,838,673	17,069,453
1850 .....	2,526	426,409,978	23,191,876
1860 .....	4,051	927,951,548	31,445,080
1870 .....	5,871	1,508,548,250	38,555,753
1874 .....	6,458	1,659,403,075	42,411,328

*NUMBER of publications with their circulation and annual issue in the United States, in 1870.*

	Number.	Copies annually issued.	Circulation.
Daily .....	574	806,479,570	2,601,547
Three times a week .....	107	24,196,380	155,105
Semi-weekly .....	115	25,708,488	247,197
Weekly .....	4,295	550,921,436	10,594,643
Semi-monthly .....	96	32,395,680	1,349,820
Monthly .....	622	67,810,116	5,650,843
Bi-monthly .....	13	189,900	31,650
Quarterly .....	49	846,680	211,670
Total .....	5,871	1,508,548,250	20,842,475

*CLASSIFICATION of publications.*

	Number.	Copies annually issued.	Circulation.
Advertising .....	79	4,689,800	293,450
Agricultural and horticultural .....	93	21,541,904	770,752
Benevolent and secret societies .....	81	6,518,560	257,080
Commercial and financial .....	142	31,120,600	690,200
Illustrated, literary & miscellaneous .....	503	160,661,408	4,422,235
Nationality, devoted to .....	20	4,671,000	45,150
Political .....	4,333	1,134,789,082	8,781,220
Religious .....	407	125,959,496	4,764,358
Sporting .....	6	3,212,000	73,500
Technical and professional .....	207	15,974,060	744,530
Total .....	5,871	1,508,548,250	20,842,475





STATISTICS of newspapers and periodicals, showing the number of, and circulation of each in the State of Pennsylvania, at the censuses of 1850, 1860 and 1870.

## ALL CLASSES.

	NUMBER.			CIRCULATION.		
	1850.	1860.	1870.	1850.	1860.	1870.
Copies issued annually.....	84, 898, 672	116, 094, 480	241, 170, 540	162, 635	233, 550	466, 070
Daily.....	24	29	55	500	3, 900	10, 000
Tri-weekly.....	2	1	3	000	9, 800	17, 700
Semi-weekly.....	1	3	2			
Weekly.....	261	297	385	526, 142	700, 961	1, 214, 395
Semi-monthly.....	19		11	290, 500		825, 100
Monthly.....		28	73		464, 684	846, 750
Bi-monthly.....			3			5, 550
Quarterly.....	2	6	8	1, 900	6, 800	31, 200
Annual.....	1	3		2, 500	13, 000	





*Statistics of Libraries in the State of Pennsylvania.*

CLASS AND KINDS.	1850.		1860.		1870.	
	Number.	Volumes.	Number.	Volumes.	Number.	Volumes.
All classes.....	393	263,400	1,416	1,344,624	14,849	6,377,845
Not private—total.....					4,996	3,049,247
State.....					1	30,060
Town, city, &c.....					39	28,586
Court and law.....					29	24,051
School, college, &c.....	51	94,211	67	172,802	115	267,223
Sabbath school.....	226	58,071	764	339,414	3,916	1,696,640
Church.....	26	26,452	56	71,409	732	420,559
Historical, literary and scientific societies.....					18	202,600
Benefvolent and secret associations.....					30	49,435
Circulating.....					86	390,153
Public, not specified.....	90	184,666	529	761,299		

*Statistics of school attendance and illiteracy in the State of Pennsylvania, at the censuses of 1850, 1860 and 1870.*

STATE OF PENNSYLVANIA.	1850.			1860.			1870.		
	Total.	Native.	Foreign born.	Total.	Native.	Foreign born.	Total.	Native.	Foreign born.
Attending school.....	504,610	488,823	15,787	669,961	648,651	21,310	725,005	796,717	18,288
Cannot read.....							131,728		
Cannot write, persons 10 years of age and upwards.....							222,356		
Cannot read and write, persons 20 years of age and upwards.....	76,272	51,283	24,989	81,515	44,930	36,585		126,803	95,553



## THE MONEY VALUE OF EDUCATION.

In August last I attended the State Convention of teachers at the Shippenburg Normal school, and was deeply interested in two essays read by eminent presidents of our colleges. The questions discussed were, primarily, educational; but their arguments were presented in such a light by incorporated statistics as to render these problems of social science absolute demonstrations.

Dr. Hays, president of Washington Jefferson College, had for his theme the money value of education, and successfully demonstrated that no other investment secured to its possessor so large a percentage upon its investment. The only difficulty seemed to be that if our Pennsylvania fathers acted upon his advice, then the number of lawyers, doctors and divines must very soon overstock the market, and knock down the price nearly 300 per cent., like greenbacks during the late rebellion.

But Dr. Wood's essay, prepared without any knowledge of the former, met this objection by showing that technical education to instruct the mass was indispensably required to raise up artists, designers, engineers, teachers, skilled workmen of every description to take up our ores—our coal—our iron—our raw fabrics of every species, and transmute them into all the various forms, shapes, sizes and colors required in domestic and social life. That by thus greatly increasing the value of their labor our sons and daughters could find profitable employment at home, and would not be driven away to seek employment in new and distant States. The combined productions of these two eminent scholars illustrate what for years has been our dream for our good old mother Commonwealth, that she, in the no distant future, is destined to be the Empire State of our Union, first in all that tends to make her great and glorious. I have therefore copied the whole of Dr. Hays' essay, and a full abstract of the much longer one of Chancellor Woods, and I commend them to the reader's careful consideration.

Dr. Hays spoke as follows:

There are some fields of debate that must be constantly traversed. This question of whether or not an education pays is one of these. The battle was fought out and won many years ago, when the free school system was proposed and finally adopted by our host of the heroes of that war are gone, and a generation has come up since, which knows but little of the arguments *pro* and *con*. This generation, too, is fully as egotistical as any of its predecessors, and is perfectly confident of its own ability to understand and settle all doubtful questions, and has no great faith in the wisdom of the fathers. Moreover, this modern young America having such unbounded faith in its own powers, is very much disposed to believe, that,





while an education may have greatly assisted its grandfathers in making their way in the world, yet it is not at all so clear that itself needs any such assistance. It is important, therefore, that the facts and figures should once more be arrayed for the instruction of the public. This being a question of social science, and not exact science, where the forces are so numerous, complicated and subtle, and passion, deceit, prejudice and circumstances so greatly influence actions and results, it will not be often possible to reach precise conclusions. All that can be hoped for reasonably will be that the indications marked in one direction shall be so often and so strongly corroborated by others that we shall have satisfactory if not unmistakable results.

To begin, then, at the beginning: Does it pay to send a boy to school? In the year 1870 there was sent from the Bureau of Education at Washington a circular, asking from employers, workmen and observers information on that very point, and in the published report, entitled "The Relation of Education to Labor," a large number of the replies is given, and the general result of the opinions of these men who employ hands, the hands themselves and thoughtful men, is that ordinary common school education adds from twenty to fifty per cent. to a man's ability to make money. In other words, when a father sends his boy through our common schools, he makes him worth to himself as a man from one-fifth to one-half more than he would have been without it. If in ignorance he could make \$1,000 per annum, which would just keep him, this common school education would add from \$200 to \$500 per year of profits to be saved, either of which sums, if carefully saved each year, is the basis of an early fortune.

The extreme scarcity of good American laboring hands proves the same thing. Not one native boy in one hundred grows up ignorant of reading, writing and arithmetic; but, knowing these, he is worth more than is now paid common hands, and so goes to more profitable work. Farmers complain of the impossibility of getting good farm hands, but he was right who told his neighbor, "If a man was able to work your farm to please you, he would be working his own farm, not yours." Probably every one of us has among our valued acquaintances many who began as farm hands, but are now land owners. The men who stay as hands are the ignorant, and not the educated.

In the same line is the fact that, as a general rule, the wages paid workmen is in proportion to the intelligence demanded by their labor. In manufacturing establishments the men who frequent saloons and the street corners get the low wages, while those who study up the science of their trade or work and read the papers get the high wages.

Go to our almshouses, and we will be met with some very instructive facts. If education has no money value, then the poor houses ought in this





respect of education to be an average of the general community in which they are located. The truth, however, is, that these paupers are ignorant, ten to one, while the people are more than one hundred to one educated. Even a common school education, therefore, divides your chances for the poor house by one thousand.

There is a phase of this subject developed in connection with crime that deserves our careful attention. If you go to our jails and work houses, where are punished the petty criminals convicted of vices that neither require skill for their commission nor bring profit in their accomplishment, you will find them an ignorant, stolid, stupid set. If you go to the penitentiary where are confined the criminals whose crime pays—forgers, bank robbers and defaulters—you will find many of them highly intelligent and often scholarly in their own specialty. Very many counterfeiters, in the way of skill as workmen, are first class, and if they had turned their ability to making an honest living, might have made a fortune. In addition to those, however, who are caught and punished, we must consider the large class of criminals who are not punished..

Here again we find the same lesson, for we shall probably agree that the ignorant actors in such petty crimes as pilfering and assault and battery are generally caught when they are wanted, but that of the great criminals who steal by the hundred thousand and waylay and murder, there is a very large number that runs unwhipped of justice. Their knowledge helps them to cover up their tracks or foresee the coming discovery and escape in time, or else so cloak it with the forms of law that it cannot be reached. These facts may play havoc with those pet theories that education secures the morality of the community, but we may as well face the truth which we are taught by experience, that mere education does not make a man moral, but it does make him successful and his labor profitable. Facts do show that in the places of punishment and out of them, dextrously avoiding the penalties due to their crimes, the number of criminals who are educated is about a fair proportion of the educated people at large, but even criminal statistics show that a common school education greatly increases the chances of profit.

But it is scarcely necessary to argue this question with regard to these elementary studies, for none not lost to every sense of duty to their children could be willing, where education is free, to allow their children to grow up unable to read in the papers the events of this tumultuous age and write in the times of their joy and trouble to the friends who would sympathize with them and correctly calculate the debts they owe their neighbors and the dues that are coming to them. The debate and doubt in the public mind is not in regard to those branches whose use is direct and obvious, but in relation to those which are very often never directly used, and whose



main claim, therefore, to public confidence is their effectiveness in disciplining the mind, so that when it comes to the immediate work before it, it can perform it best and quickest.

We are very often told that an education is not necessary to success, and are pointed to Franklin and Lincoln, Stephenson and Shakespeare, who never went to college, in proof of the assertion. Now, as it may be supposed, that the less includes the greater, we propose to devote the remainder of this paper to the money value of a college education. If we show that for the average boy or girl a college education is very greatly to be desired and vastly increases their chances of success, then *a fortiori* every boy and girl who cannot get a college education ought to get just as good an education as they possibly can. If a thorough education is very desirable, then every one ought by all means to get the very best education within their reach. Since, therefore, every college graduate must go through the intermediate steps of the academy and high school, a plea for college education is equally available for every other grade. This is the easier line of argument to adopt for academies, high schools, seminaries and all such institutions, because the statistics are more easily gathered and are already at hand more fully.

The experience of the religious denominations in this respect is very significant. Between these denominations the competition is very active and sharp, and within each denomination the competition between individual ministers is no less active. Not a few denominations have tried the experiment of an uneducated ministry, and some have sought to make it their boast, but it cannot be successfully contradicted to-day that every leading denomination in this country and Europe is an earnest advocate for this education, and that within these denominations the influence of the educated ministers is out of all proportion to their age and natural talents.

This leads us to make some remarks on the basis of comparison. The success of Franklin, Lincoln, Stephenson, Shakespeare, and their like, proves that in every country high positions are open to all fitted to fill them. If, then, a college education does not improve a man's chances for these positions, the number of college graduates found in them ought to be in proportion to the number of college graduates in the country. That is to say, if half the young men of this country go to college, about half the Congressmen, judges, cabinet officers, and such like, should be college-bred. But if more than one-half are college-bred, and not nearly one-half of our young men go to college, it is very evident that the college education greatly benefits a man's prospects for these high positions.

The young men in college have no more natural talents than those out of college. I believe the average is no higher one place than the other. This opinion, however, has been controverted, and I propose to allow one-fourth





for stupidity; that is to say, that taking out of those who do not go to college the dumbest of every four the average talents of the other three will be fully as high as the talents of the average college student. Remembering my own companions in my common school days, I am sure that those of us who went to college were no smarter than those who did not, and when I compare the keenness of wit and thought which I have met among the poor and neglected children in cities and country districts with the mental ability and inability which I have met in college during four years as a student, and four more as president, and what I have seen elsewhere of college men, I do not believe that colleges get into their classes anything above the general average.

The question of age ought also to be introduced thus early and remembered. If college-bred men attain eminence at an earlier age than others of equal talents, in this world where life is so short and uncertain, that is a very important item to be considered.

Let us with these two conditions of the estimate in our minds then look at Congress. This would seem to be a very unpromising field, for the impression is abroad that it requires political trickery rather than culture and ability to insure a man's election to Congress. With, however, some very favorable opportunities for forming an opinion on the last few Congresses, I assert my conviction that in point of ability they were such as this nation may be proud of. Corrupt men there were for whose corruption we might blush, but though corrupt they were not weak, and I believe in point of integrity, and certainly as to ability, they were far above what they received credit for. We have fallen into a vicious habit of the detraction of our public men, and I say this to enter my protest against a vast amount of reckless lying done in this way.

What proportion, then, of the United States Congress ought to be educated men? Of course the Congress is open to everybody if he can get votes enough to elect him. By the census of 1870 there were 2,611,796 males between the ages of eighteen and twenty-four. In 1872 the Bureau of Education gave special attention to the collection of college statistics. This being two years after the census, the number in college would naturally be greater, and so taking the two as the basis, the proportion would be unfavorable to education. In that year there were 17,824 in college, and dividing the number between eighteen and twenty-four, the college average age, by this number, we find that about one boy in every 140 goes to college, or that the college men, graduates and those who do not graduate, are about 140th of the male population. Dropping, now, as we have said, one-fourth for stupidity, and we shall have the proportion less than one to one hundred. The proportion ought to be 140th, but out of the 140 take away the 40 stupidest, and surely the remaining hundred will average as good natural





talents as those who go to college. The present Congress has 302 members of the House of Representatives and 73 Senators. Therefore there ought, if an education is of no special advantage, to be three college graduates in the House and one in the Senate. There are, however, 138 graduates in the House and 55 who received a less complete education, and 35 graduates in the Senate and 15 who obtained an academical education. That is a class comprising only one 100th of the population furnishes close upon two-thirds of the Congress. If a denomination could show such a record it would be called a state church, and every unprincipled politician would be for joining it. Note the figures, 193 to 109 and 50 to 23.

From Lanman's Congressional Dictionary I have compiled the following statistics in regard to cabinet officers. I shall hereafter use two terms, college men, meaning all those who took a complete course or a partial course at college or at an academy, and self-educated, meaning those who enjoyed no such advantages so far as known. There have been fifteen different men elected President of the United States; of these thirteen have been college men and two self-educated. There have been nineteen Vice Presidents, of whom twelve have been college men and seven self-educated. Three Vice Presidents have become Presidents, none of whom were college men. Thirty-three have been Secretary of the Navy, of whom sixteen were college men and seventeen were self-educated. This is the only office which I have found in collecting these statistics where the self-educated men had a majority, and here it is but one. Ten men have held the office of Secretary of the Interior, of whom eight were college men and two self-educated. There have been thirty Postmasters General, of whom nineteen were college men and eleven self-educated. There have been thirty-four Attorneys General, of whom twenty-one were college men, and thirteen self-educated. Of Secretaries of War there have been thirty-four in all, of whom twenty-seven were college men and but seven self-educated. There have been twenty-nine Secretaries of State, twenty-two of whom were college men and but seven self-educated. When we reach the Secretaryship of the Treasury a fact is developed which surprised me. If there is any cabinet office where mere business life would seem to be on an equal footing with the colleges it would be here, and yet the colleges almost monopolize the place. There have been thirty-three Secretaries of the Treasury, twenty-nine college men, all but one full graduates, and only four self-educated. In all there have been 203 persons holding cabinet offices whose history I have been able to ascertain, of whom 142 were college men and 61 self-educated. If an education is of no account there ought to have been two college men out of 204, instead of 142. In other words, a fragment of society certainly less than a hundredth part furnishes more than two-thirds of these cabinet officers. So in the recent Constitutional Convention of this State the matter with the multiform elements of mind and heart can make it.



jority were college men, for out of 142 who were at some time members of it, 83 were educated and only 49 self-made. Of the signers of the Declaration of Independence, there were in all 56, of whom 41 were educated, or only one less than three-fourth, thirty were full graduates and but fifteen self-made. It is not to be doubted that men may work up to these positions of influence themselves, but if success and fortune are thus so much more surely attained by an education no wise boy will neglect it if he can possibly help it.

Turning now from political life to the legal fraternity, exact statistics are more inaccessible, but so far as observation goes, it points directly to the same thing. There have been eight Chief Justices of the United States, of whom seven were college graduates. There have been thirty-seven associate justices whose history is known, of whom twenty-four or two-thirds were college graduates. In this State the same holds true. Every judge on the bench in Allegheny county is a graduate, as are also most of the judges of the State. If we look among the lawyers we shall find a fact true which will explain this abundance of college graduates on the bench. There are very many lawyers of marked ability who had no college education, but they are generally middle-aged or old men. The men who attain eminence young are the college men. I believe four-fifths of those who attain eminence as lawyers at from thirty to forty-five years of age are college-bred men. Those, as a rule, who attain eminence without this previous mental discipline only reach it at from forty-five to sixty years of age. Now the term of office of the judges is a long one, therefore those elected are generally among the younger men. It seems hardly worth while to elect a man of sixty or seventy years of age to a ten or fifteen years' term of office. Thus it is that the college graduates carry off far more than their proportion of these judgeships. So in the medical profession, there are many physicians who attain eminence without this early education, but they come to it when they are older. The doctors that reach this great success young are generally college graduates. Of course this rule is not without many exceptions, but when it is remembered that not more than one-half of the lawyers and physicians are college educated men, and that so large a proportion of the eminent men of these professions come from that college half, and that a still larger proportion of those who attain eminence early are furnished by that college half, it raises a very strong presumption in favor of it being a paying investment of time and money to take as thorough a course of education as our means will allow.

Probably the fairest as well as the severest test to which this question of the value of an education was ever put occurred during the recent war. Both sides were pushed so close to the wall that neither cared anything about a general so he could succeed in getting victories. The West Point,





men were matched against the others in all sorts of ways and times and relations as generals of the opposing armies and commanders of corps, divisions, brigades and regiments of infantry, cavalry and artillery on all battle fields. There was no lack of men ready to accept office and responsibility coming from every station in life. They were tried with the big battalions on their own side and against them. What now was the result of this test? Before the war was half over the opinion of both North and South was pretty well settled, that he who had been educated for his work was far more than a match for him who with equal native talents lacked that early drill and discipline. When the war ended there was scarcely anything but graduates left prominent on either side. Stonewall Jackson, Longstreet, Beauregard, A. S. Johnston, Joseph E. Johnston and Robert E. Lee, and Hooker, Hancock, Thomas, Meade, M'Clellan, Sheridan, Sherman and Grant were all West Pointers.

To sum up results then we come to these conclusions: That what is known as a common school education adds from 10 to 50 per cent. to a man's money-making power, whether he makes his money honestly or dishonestly. A higher degree of education adds in almost the same proportion. If we look into those professions, such as law and medicine, where a man's brains and learning, and not his money is his capital, this is specially obvious. Every business man's brains is part of his capital, but besides brains a banker, a merchant, a manufacturer, and such like must have money also. It is a matter of no importance to you whether your lawyer or doctor is rich or poor, *so he knows how to manage your case*. Now a college education fits such men to do as good work at thirty or thirty-five as they would probably have done at forty or forty-five without it. In other words, it adds ten years to a man's working life—not ten years of childhood, nor ten years of infirm old age, but ten years of the prime of his life, when his body is ablest to endure fatigue and his brain endures the longest nervous strain, and when the fees are largest. Moreover, no other investment pays so promptly so large a reward. A college education will cost from \$1,500 to \$2,500. Now if a young man has real force and snap in him, he can put that education into his service as a teacher or some other calling; and get \$1,000 to \$2,000 salary per annum, that is his education will more than pay for itself in two years. Will any one show us a farm, a railroad, a bank or a factory that can be bought for \$1,500 to \$2,500, that will pay for itself in two years. My education cost my father less than \$1,500, and I have received every year since more than that as a salary. It is almost my entire capital, and I would be called a fool to consider for a moment the suggestion of selling it for 1,000 per cent. profit. Still further, if a young man goes into banking, stocks may go down, and then he breaks up; and merchants are burnt out, and safes robbed, and money





panics smash everybody. But no man loses his education by having it sold out under a foreclosure of a mortgage, or burnt up in a fire, or stolen by a robber, or squandered by a reckless partner, or spirited away by a defaulting book-keeper. It is the only kind of a fortune parents can give their children, which their children cannot waste by their extravagance, or be cheated out of by other people's villainy.

It is estimated by the most careful observers of business life, that in the large cities, of every one hundred persons who undertake business on their own account, seventy-five fail, and make their living serving somebody else as book-keepers, clerks or helpers in some way. Ten others make a bare living with many ups and downs. Ten more reach moderate affluence, three or four more considerable wealth, and not more than one in the hundred ever reaches the real large wealth that so tempted his eyes, when as a boy he was in such haste to get into business for himself. But every boy thinks he is the one in his hundred thousand who will turn out a Ben. Franklin, and so neglects the education that makes men of others, and only gets wiser when he is too old to repent to advantage. I once heard a man say that possibly many a boy then in college might have turned out a genius like Franklin if he had been kept at home. But he had forgotten to count up how many there are at college who would have been blockheads at home, and what multitudes there are who are all but ciphers in society, who would have made masters if they had had a good education. College boys are sometimes called proud, but the really vain and proud are those who think themselves so smart they can get along without schooling. The truth is, every boy and girl when they get out in life will find there with them, in the sharpest competition, boys and girls just as bright as they are themselves, and they stand a poor chance when the odds of thorough discipline is all against them. As well might a common hand undertake to fight with an accomplished boxer.

And now parents and boys what say you to these figures? Are you ambitious for the future? If so, you cannot afford to omit education. It is not indispensable to success, but it brings success soonest and surest. Though the college men are less than one-hundredth of the whole they secure two-thirds of the good places. To put it a little clearer, if among a hundred thousand men a hundred good places are to be distributed there will be sixty-six of them go to the thousand college men in the hundred thousand, while for the other ninety-nine thousand there will be only thirty-four places. In one case your chances are one in fifteen, while in the other they are but one in 2,911.

Surely it is wise to make the best preparation we can for a life so very uncertain as ours. The considerations thus far presented have been exclusively those of the lowest and most materialistic kind. But every man



owes something to civilization and christianity and general culture. Here education is all but indispensable. Many men have the wealth and opportunity to be very influential for good, but their ignorance and want of all cultivation and refinement make them ridiculous. Education pays in money, but it pays even a larger profit in enlarged manhood, intellectual enjoyment, social influence, the elevation of society, the refinement of the people, and the general home comfort and public prosperity of the community.

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## INDUSTRIAL EDUCATION INDISPENSABLE TO OUR STATE.

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BY CHANCELLOR WOODS.

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I address the representatives of the 19,000 educators of our large, rich and influential State, to whom is entrusted the moulding of our 1,200,000 youth.

Not our fertile soil or our many manufactures, in themselves considered, are of so much importance as the brain and brawn of the youth who are to cultivate this soil, and increase and perfect these manufactures, thus giving us the high rank we should attain among our sister States.

However humble our work as teachers may be regarded by those who measure men by their annual income or their display of dress and equipage, measured as every work should be, by the good done, it is second to none.

I do not address legislators, sensitive as an aspen leaf to the popular pulse, or manufacturers, looking eagerly at the profits of the present year, but those who sow for others and the future, who toil not to mine coal, or to make pig metal, but to build up true, intelligent men and women.

I address you on a particular subject, and I desire to do it as earnestly and with such statistics and facts as will impress you and, through you, others in different parts of our State, with the great importance of the subject, and secure such action as shall advance the good of our youth and the interests of our State. And I propose to do it in a plain, unadorned manner, stating some of the many facts before me which favor education in the theory and practice of the arts and trades of all kinds, "that special education in our calling which should fit and enable each of us to discharge in the best manner the special narrow round of duty, by which each citizen fills his own personal place in social life."

As teachers, our lives are not those of idleness or ease, but of severe, exhausting labor on material as varied in its nature as the different combinations of matter with the multiform elements of mind and heart can make it.





To make an ingenious piece of machinery requires labor and skill ; to mould and fashion a soul demands the exercise of the highest powers with which man is endowed. To create is the province of Omnipotence ; second only to this is it to develop that which allies man to the Creator. Education is "one of the greatest and noblest designs that can be thought on, and for which this nation perisheth." And yet the puddler, cutting tailor, glass-blower or sheet worker receives greater compensation than the soul-moulder, who fashions for eternity. More is paid for the coverings than for the object covered ; for the setting than for the jewel.

Our duty as educators is not simply to instruct in one or a few studies, but to decide on the comparative value of different studies to different students, with different capacities tastes and purposes.

The relative worth of different kinds of knowledge to the student has not been sufficiently regarded. The studies he has pursued may be valuable, and to the extent to which he has pursued them whilst they may be less so than other studies that might be in whole or in part substituted. An immense amount of information bearing on the industrial activities, which should be understood by all, has been passed over, while the less useful has been studied. There has been a tendency to regard the useful as ignoble.

The answer, then, to the question, what should our youth study ? has not been intelligently given. The philosopher said they should study that which they will most need when they become men. Wm. Penn, in writing to his wife in relation to the education of his children, said, "Give them learning, but let it be useful learning."

Practical, skillful men in the trades and arts we need. To have them we must educate them. They will not grow of themselves. God will not work a wonder to help us, when he has given us wherewith to help ourselves. Especially are such men demanded in *our* State, where there are so many persons engaged in agricultural, mechanical, engineering and mining pursuits. To advocate such an education is to advocate the highest interests of our Commonwealth and its toilers.

The old and rich institutions of England are slow to adapt themselves to the changes in learning. In Cambridge, it is said, a man may yet get the highest honors in mathematics and natural philosophy, and have never seen a crystal, a lens, an air-pump or a thermometer ; and at Oxford he may get his first honor in natural science without knowing the Binomial Theorem or the solution of a triangle. Yet in technical education we are far behind England and the continent where are numerous richly endowed institutions fitted to give instruction in practical education. They have consequently acquired great superiority over us in many of the arts and manufactures. We have been too well satisfied with ourselves and our school system, and





the Tyrian purple, are made from coal tar, until lately a worthless refuse; and the Aniline blue sells for \$28 a pound. A pound of cotton, costing 12 cents, made into muslin of good design, sells for 80 cents, and into chintz, \$4; a pound of the finest cotton, costing 40 cents, made into cotton lace, will bring \$1,000; iron ore, costing 75 cents, made into bar iron, will sell for \$5; horse shoes, \$10 50; table knives, \$180; the finest needles, \$6,800; shirt buttons, \$29,480; watch springs, \$200,000; hair springs, \$400,000; pallet arbors, \$2,577,595. Here labor has, with the aid of machinery, produced the difference between 75 cents and \$2,577,595. Any article obtained without labor has no exchangeable value. Rude labor, that which requires no practice or education, brings the lowest price; dexterous labor, which enables a person through practice to perform works or parts of works quickly and nicely, brings a higher price; and skilled labor, combining a knowledge of the principles underlying the operations as well as dexterity in their execution, brings the highest price. Skilled labor creates values, rude labor often destroys them. The last stroke of the skilled sculptor gives value to the statue; one blow of the rude laborer might destroy the work of years. It is by labor that our machine shops and iron furnaces have been more productive of wealth to our State than would be the richest gold mines of the world. And if one-half of the 616,000 persons in our State engaged in agriculture, manufactures and mechanical and mining industries should become skilled laborers, there would be an annual addition to our wealth of \$184,800,000. If there should be the same change in one-half of the 9,000,000 engaged in the same pursuits in our whole country, it would, at a very low estimate, add \$2,700,000,000 annually to the wealth of the nation. We must not overlook the fact that the sum required for necessary food and clothing is the same for all classes of laborers. In England it has been computed that \$125 represents the cost of a highly skilled over a skillless workman, and that this cost of a skilled workman is less than one year's purchase of his increased value to the nation.

A single fact will illustrate the value of skilled labor in producing the best machinery. A Pittsburg cotton manufacturing company wanted a new Corliss steam engine to take the place of one they then had. The offer of one for \$8,500 was refused. A second offer, for the fuel saved in five years by the use of the new engine, disclosed the fact that the saving would be \$200 per month, or \$12,000 in five years. The engine was taken at the first offer. The saving from machinery running evenly, avoiding the breaking of threads, was probably equal to the saving of fuel.

Time will not permit us to do more than to allude to the vast losses arising from ignorant and incompetent workmen, engineers, architects, overseers or owners of property. The abandoning on the ocean of the French steamship *L'Amerique* through the ignorance of the engineer; the



building by our own government, at a cost of \$11,000,000, of twenty light-draft monitors, not large enough to carry the turrets for which they were intended; the placing of an engine at the cost of nearly \$800,000, on one of our government ships, which was abandoned after a single voyage to San Domingo, in which the lives of many illustrious men were endangered; the Pemberton mills disaster, in which of the 750 employees 88 were killed, and many disabled for life; the recent Mill River disaster, costing 150 lives, and \$2,000,000; the falling of a floor in a Syracuse church, killing instantly 14, and injuring 100 more; these losses are familiar to all. Large sums and many lives are lost by incompetent railroad engineers and architects. Soils are exhausted, and small crops are gathered, through ignorance of the chemical and mechanical principles involved in agriculture. We are now taking annually nearly \$600,000,000 in value from the elements of our soil, and it has been said that we have taken more in value than the entire wealth of the country. Agriculture is fast becoming chemistry, and husbandry, machinery.

When men understand the theory as well as practice of their business, there will be less time and money wasted in futile attempts at inventions directly at variance with well established laws. Inventions, of which we have many, as the 13,000 patents granted last year show, are generally the result of scientific knowledge. We have already placed England under obligations to our inventions to the amount of \$1,000,000,000. But the 7,000 rejected applications for patents last year prove, that there has been much misapplied time and ingenuity in this direction. We are almost daily reminded of the folly of the man who, by years of labor, sought to propel a boat by taking water into the bow and ejecting it from the stern. The \$20,000 lost in the vain attempt to collect the alcohol from bread in baking, and the efforts to construct electro-magnetic engines in the hope of superseding steam, are examples of the same kind. I have often been compelled to advise young men to abandon useless projects to which they had devoted years of patient toil and all their means. A knowledge of scientific principles would have saved them this loss. Science often comes to the rescue of ignorance, though sometimes at a late hour. The pretended discovery of diamonds in California was exposed by Clarence King, but not until innocent men had been defrauded of hundreds of thousands of dollars. The Nevada fraud was revealed to the public by a young scientist, saving \$1,000,000. A graduate of a scientific school, for a fee of \$250, showed the iron mines of New York, in which hundreds of thousands of dollars were invested, to be valueless in consequence of containing titanium, thus saving \$400,000.

It must be remembered that what was economy fifty years ago, is gross wastefulness now, and what is economy now, will be regarded as reckless





NAME.	LOCATION.	No. of instructors.	Whole No. of pupils,	Number of males.	Number of females,	Number of volumes in library.	Value of apparatus,	Cost of tuition per year	Cost of board per week	Value of buildings and grounds.
Allentown Female Seminary	Allentown	8	77	62	142	250	\$350	\$24 00	\$3 50	\$46,000
Beaver College and Musical Institute	Beaver	7	204	56	56	300	300	40 00	4 50	55,000
Blairsville Ladies' Seminary	Blairsville	6	56	91	134	500	600	40 00	4 50	15,000
Chambersburg Academy	Chambersburg	5	134	52	52	200	500	30 00	3 50	40,000
Classical Academy	Reading	3	52	38	38	700	150	40 00	4 25	2,500
Cottage Hill Female College	York	6	30	28	35	19	50	30 00	3 50	30,000
Cumberland Valley Institute	Mechanicsburg	3	57	70	50	200	200	30 00	3 00	18,000
Cumtbridge Academy	Eldersridge	2	63	13	11	300	300	25 00	2 50	6,000
English and Classical Institute.	Stewartstown	4	120	100	16	2,500	125	30 00	3 00	10,000
Greenwood Seminary.	Millville	2	24	305	305	4,500	1,200	40 00	5 00	100,000
Laird Institute.	Murrysville	2	116	26	15	5,500	600	20 00	3 00	50,000
Missionary Institute.	Selinsgrove	13	155	155	156	1,500	5,000	21 00	3 75	100,000
Moravian Seminary	Bethlehem	10	130	162	109	1,000	300	30 00	3 50	73,050
Mount Dempsey Academy	Landisburg	6	318	109	123	900	4,000	30 00	3 50	60,000
Nazareth Hall	Nazareth	7	109	101	116	300	350	38 00	4 00	10,000
Pennsylvania Military Academy	Chester	9	123	116	35	250	400	25 00	3 50	75,000
South-Western Normal School	California	6	318	109	200	600	3,000	30 00	4 00	12,000
Tremont Seminary	Norristown	7	109	101	116	300	350	25 00	3 50	20,000
University Female Institute	Lewisburg	9	123	101	116	300	350	25 00	3 50	20,000
Washington Female Seminary	Washington	8	101	116	300	350	350	25 00	3 50	20,000
Wilson Female College.	Chambersburg	11	116	69	400	600	3,000	30 00	4 00	20,000
Witherspoon Institute.	Butler	4	104	18	18	18	18	18	18	18
Wyoming Seminary	Kingston	18	600	400	200	600	3,000	30 00	4 00	20,000

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## REFORMATORY INSTITUTIONS.

## THE CONDITION OF REFORMATORY INSTITUTIONS IN PENNSYLVANIA.

The following sketch was prepared to be used, if occasion offered, at the St. Louis Prison Reform Congress. At a former congress at Baltimore some reflections had been made upon Pennsylvania as not up to the times in regard to modern reformatory institutions. I have inserted a portion of the same, claiming priority for Pennsylvania, and giving a brief sketch of her existing reformatory institutions.

The criminal code of no one of the original colonies was so mild, nor were their reformatory institutions so wisely organized as were those of the colony of Pennsylvania founded by William Penn. The leading principles of this code were embodied in his frame of government prepared in England, and are distinctly contained in the sixty-second section of his great law enacted at old Chester shortly after the landing of the good ship "Welcome" on the shores of the Delaware. This act and the supplementary legislation of 1705 and 1767, all demonstrate that his plan was to make his prisons work-houses wherein the inmates should be employed in some useful industry tending to their own reformation, and making some compensation to that society whose laws they had violated. William Penn has been dead one hundred and fifty-six years, yet could he arise from his grave to take part in the doings of this congress, how few of his published opinions would have to be modified. He has been generally regarded, not as a statesman, but as a religious reformer. This, however, is a mistake. Many others, equally zealous, religious reformers, have labored to elevate our race; but where can you point to the founder of an empire that has his institutions upon so stable a foundation, and was guilty of so few mistakes. Pennsylvania was fortunate in having, if not the ablest, the wisest European that ever crossed the Atlantic to found on these shores. The labors of her founder made Pennsylvania, by her jurisprudence, the model colony of the original thirteen. In the early days of the Commonwealth Benjamin Franklin devoted his matured efforts to the fuller development of the same principles. After his death the able Bishop White, aided by a host of worthy co-laborers still further perfected the system. The result was a prolonged and earnest discussion, the reviews and encyclopædias of that day, resulting in our State act of 1818, authorizing the construction of the Western, and the



1821 authorizing the erection of the Eastern Penitentiary. The Western one being the first built was imperfectly constructed for the purposes of enforcing solitary confinement, and although conducted some forty years on that principle, its enforcement has recently been abandoned, and the prisoners are now assembled in a common hall "for labor, learning and religious instruction." The government of this institution is therefore now more than half the time solitary, while confined to their cells, and the remainder of the time congregate, while assembled in discharge of certain duties. The managers maintain these changes have not injured it as a reformatory agency, but have, or will, as soon as all their arrangements are completed, add greatly to the productiveness of its labor. They hope, in this respect, to make it fully equal to the Allegheny work-house—that is to say, self-supporting.

The original construction of the Eastern Penitentiary to enforce separate confinement, was a great improvement upon that of the Western, and its management has labored zealously for nearly fifty years to demonstrate that theirs is the true philosophy for the reformation of criminals. The Philadelphia sentiment outside of that prison, appears to be in full sympathy with its internal arrangements, and I know of no other kindred institution that secures the co-operation of so large, intelligent and zealous co-laborers in the work of reforming the prisoners and taking care of them after their discharge. Even the semi-police force to superintend the ticket-of-leave prisoners under the famous Irish system, are scarcely more thorough than the voluntary labor organized for this purpose in Philadelphia. This prison is the only one conducted upon the separate system in this country. It is not probable that any more will be erected upon this system; their construction is costly; cell labor cannot be made remunerative; their solitariness shocks public feeling, and then it appears to run counter to the Divine plan which evidently formed man for social enjoyment. And yet with all these serious drawbacks, the Eastern Penitentiary, even in the estimation of those who believe a better system can be devised, has not been a failure. Its peculiarities, however, have caused its advocates to mingle very little in the general conventions of prison reformers.

Pennsylvania, in addition to her two penitentiaries, has some fifteen prisons, combining the county jail and penitentiary—that is to say, they receive convicted criminals sentenced to labor for short terms, leaving only the more hardened criminals sentenced for long terms, to be sent to the penitentiaries.

The most remarkable prison in our State, is the intermediate prison, known as the Allegheny County work-house, now in the third year of its operation. During the first year, imperfectly organized, it only fell a little below being self-supporting; the second year it paid all expenses and net-

ted some fifteen thousand dollars profit. This year they hope for still better things; and all this its managers claim has been accomplished without diminishing its efficiency as a reformatory agency. The remarkable success of this institution will revolutionize the construction and management of prisons in our State.

The leading juvenile reformatories of Pennsylvania are the Eastern and Western Houses of Refuge. The former of these will soon be a half century old, the latter not quite half that. The former has three distinct branches, male and female, white, and a colored department. The Western one is to be in the future known as the Pennsylvania Reform School, and will hereafter be conducted upon what is known as the family plan. New buildings in the country, upon a magnificent site, will make this, when fully organized, the model juvenile reformatory in this country. The buildings are in process of erection and when fully completed will cost upwards of \$500,000. The advantages of this family plan are very decided, though not enough to change an old established institution merely for the sake of changing the system. But when for any cause an old institution has to be removed and re-built, then a change to the family system should be made. Nearly all the modern juvenile reformatories in Europe are based upon this family system. It has great pliability as to numbers; may be commenced in a small way with fifty inmates, and may, from time to time, be extended to one or two thousand.

We have in our State an institution usually regarded as educational, but which is undoubtedly efficient in absorbing very largely a population that would otherwise crowd our juvenile reformatories. I allude to Girard College for orphan boys. Its inmates when admitted there are fatherless boys, between the ages of six and ten years, and are educated and supported by the munificent bequest of Stephen Girard. The number average about five hundred and sixty, though it is hoped that this number may shortly be doubled. If these boys were not cared for and educated by this trust, their want of parental control would cause many of them to become inmates of our juvenile reformatories.

Pennsylvania has also a large number of homes, orphan asylums and homes of the friendless, largely sustained by the various religious denominations, in which the children of orphanage and want are cared for and educated, thus greatly relieving what would otherwise be our over-crowded juvenile reformatories. The larger number of these are in the vicinity of our large cities and are sustained by one or more wealthy churches, and yet the aggregate number of children in these exceeds those in the juvenile reformatories established by law. This class of institutions, which is chiefly sustained by private contributions, has heretofore had occasional aid from the State Treasury. The new Constitution of our State entirely

prohibits appropriations to such in the future under sectarian control. This will cause most of them in the future to rely entirely upon private contribution for their support. During the last ten years our State has expended a large amount of money in the support and education of her soldiers' orphans. These, like the children educated at Girard college, had they not thus been cared for, their want of parental care and control would have caused many of them to find places in her juvenile reformatories. The number cared for, up to the close of the last financial year, was 7,469. The number yet to come in may be two thousand more. The amount heretofore expended is about \$4,500,000, and probably \$2,500,000 more will be required before these schools are closed. The children leave at the age of sixteen and the schools cannot therefore be closed until about 1879 by act Legislature, session of 1874. Pennsylvania is not alone in this field; she was, however, the first to enter it and has it more fully organized than any other State.

The following is nearly the state of affairs as presented in an account current at this date :

## ADULT PRISONS.

The Eastern Penitentiary .....	596	
The Western Penitentiary .....	413	
Allegheny Work-house .....	435	
The Philadelphia House of Correction .....	800	
Semi-Penitentiaries, fifteen .....	450	
	—	2,694

## JUVENILE REFORMATORIES.

House of Refuge, Philadelphia .....	566	
Pennsylvania Reform School .....	256	
Girard College for Orphans .....	560	
Homes of Friendless, Orphan Asylums, &c. ....	2,500	
	—	3,882

## SOLDIERS' ORPHAN SCHOOLS.

Soldiers' Orphan Schools .....	3,167	
	—	9,743

## INTERNATIONAL STATISTICAL CONGRESS.

The two following papers were prepared in answer to memoranda addressed to Harrisburg, through our government at Washington : The first by the Department of Justice of the French government, and the second, by the Italian government. The Department of Justice in France had been requested to report upon the usage of governments in regard to the con



viction for second, third, fourth, &c., offences. The report asked for by the Italian government was upon our charitable institutions.

These papers, called partly memoranda and partly interrogatories, had been, I presume, carefully drawn up in French and Italian, but had been translated at Washington by some person who did not understand the subjects to which they relate or the technical terms employed. I am confident neither government would have felt honored by the involved language in which they were transmitted. I have not, therefore, copied them with my answers.

COMMONWEALTH OF PENNSYLVANIA,  
OFFICE OF BUREAU OF STATISTICS OF LABOR AND AGRICULTURE,  
STATE HOUSE, *Harrisburg, April 30, 1874.*

HON. EDWARD YOUNG,

*Chief of Bureau of Statistics, Washington :*

DEAR SIR:—The Attorney General has such a crowd of business on hand, that he handed me, yesterday, your letter, and insists that I shall answer it.

Our State, Pennsylvania, has been in advance of any other, in the old or new world, in the amelioration of her criminal code. Her great founder, in the sixty-second section of his great law of 1682, declared that prisons should be work-houses, and in the same act inflicted the death penalty for wilful murder alone. Thus Pennsylvania, in her history of one hundred and ninety-two years, has only one crime upon her statute books for which she inflicts capital punishment. Her penal code was revised at least twice during her colonial existence, to wit: 1705 and 1767. As a Commonwealth it has been three times revised, on all which occasions commissions of able jurists had been appointed, and two or three years each was devoted to the subject. The result of these has been the elaborate acts of 22d April, 1794, 23d April, 1829, and 31st March, 1860. Upon no other subject of her legislation has she expended so much care, and in no other branch of her jurisprudence does she stand so pre-eminent. With these preliminary remarks, to enable the department of justice in France to comprehend the bearing of my answer, I proceed to answer the interrogatories propounded. In the absence of the Attorney General, Dimmick, I have submitted these answers to his assistant.

I remain respectfully yours,

THOS. J. BIGHAM,  
*Chief of Bureau of Statistics.*

*First.*—Pennsylvania authorizes her courts to impose a severer penalty for the second than for a first offence. By the 182d section of act of March 31, 1860, she empowers her courts, when punishment for both first and sec-

ond offences would be confinement in the penitentiary, to sentence in the latter to double the time imposed for the first offence. The details of the former legislation were different, but the principle the same.

*Second.*—Criminal courts, for misdemeanors, may impose a fine; for more aggravated misdemeanors they may add imprisonment in the county jail and sometimes even to the penitentiary. Felonies are punished by imprisonment in the penitentiary. The former sentence must have been to the penitentiary in order to subject the prisoner to the double punishment for second offence referred to in answer to first interrogatory.

*Third.*—I understand that any crime for which the prisoner had been sentenced to the penitentiary in a former case could be given in evidence on trial for a second offence, although not technically the same, when a similar punishment might be inflicted. For example, if he had formerly been punished for the crime of arson, on a second trial for highway robbery the former conviction might be given in evidence. Some of our judges have confined this increased punishment to a repetition of the same crime. I however maintain that the words of the statute are broad enough to include similar as well as the same offence; but punishment in both cases must be a penitentiary offence.

*Fourth.*—A former conviction for misdemeanor, for which a fine had been imposed, could not be given in evidence on a subsequent trial where conviction might be followed by imprisonment in the penitentiary.

*Fifth.*—The law makes the discretion of the judge trying the case the authority to increase the penalty. Our Supreme Court can alone interfere by writ of error which carries up the record. No trial of the facts is made in the Supreme Court. I find no authority in regard to the number of offences beyond the second.

*Sixth.*—The law makes no distinction as to length of time that must elapse between first and second; and a conviction in one county of the State could be given in evidence on a second trial in any other county.

*Seventh.*—The record of previous conviction would have to be given in evidence upon the trial. Parol testimony might be given to identify the criminal, not to prove the former conviction.

*Eighth.*—Our penitentiary records are accurately kept and show first, second, third, fourth, fifth, sixth, and seventh convictions. In the same prison its own records are the evidence; when former confinement has been in different prison, unless the prisoner confesses, I cannot answer how it is ascertained.

*Ninth.*—Our sentences are governed by law alone, the discretion of the judge is between a minimum and maximum. The judge may impose, first, a fine, second, confinement in county jail, third, confinement in penitentiary, and fourth, in capital cases, sentence to death.

*Tenth.*—Our penitentiary records show in regard to every prisoner his reformation or non-reformation. Great attention has been paid to the accuracy of our penitentiary records. The Philadelphia Penitentiary, on the separate system, claims reformation to be its prime object. The Pittsburg Penitentiary, on the congregate system, claims equal efficiency for reformation and that the labor of the prisoners will be much more remunerative. The Allegheny work-house claims to be equal as a reformatory to either of the others, although the prison is entirely self-supporting. The new house of correction, Philadelphia, is similar to the Allegheny, and is expected to be self-supporting.

COMMONWEALTH OF PENNSYLVANIA,  
OFFICE OF BUREAU OF STATISTICS OF LABOR AND AGRICULTURE, }  
STATE HOUSE, *Harrisburg*, Sept. 16, 1874. }

HON. EDWARD YOUNG,

*Chief of Bureau of Statistics, Washington :*

DEAR SIR:—The Secretary of State has referred to my department yours of 24th ult., asking information for the Italian government. The reports of the Board of Charities of Massachusetts and Pennsylvania and half a dozen other States are full of statistics on these subjects. The proceedings of the prison congresses held at Cincinnati, Baltimore and St. Louis and also the World's Convention in London will probably afford all you desire. I send you by express three volumes of reports of our Board of Public Charities my own report on statistics and our common school report. These will be marked on the outside, International Statistical Congress, for use of Italian Charge de Affairs, Washington, D. C.

Your series of memoranda are so involved that I shall try to answer the leading ones without following closely your order.

In regard to your first and second, I reply our laws are very numerous in regard to charities ; not published in any one pamphlet ; I cannot furnish them.

To the third: Our charitable institutions are governed by law—some by general law—others by special charters.

To the fourth: Their civil conditions are alone subject to our laws. These laws do not regulate religious belief.

To the fifth: Each institution generally holds the real estate upon which it is located. Sometimes it owns other real estate from which it derives an income. More frequently its revenue is derived from dividends on stocks or other personal property. Some public charities, such as the support of the poor, are derived from proceeds of public taxes.

To the sixth: If by private charity is meant begging from door to door, then there is much less of that tolerated in this country than in the old world. The general opinion being that money thus spent is unwisely used.



To the seventh : We have no generation of paupers. The individual poor are temporarily relieved.

In regard to the number who received and the amount contributed to charity, I would state generally : Our State has now a population of 3,800,000. Our great founder provided in his great law for the support of the poor on what we call the township system. Thirty-one counties, containing probably one-fifth the population of the State, still adhere to that system. The large counties, containing the other four-fifths, have collected their poor each upon one or more farms where they labor what they are able and are supported for the residue by the county. This I call the almshouse system.

Our townships support 3,500, at an expense of about. . . . .	\$200,000 00
Our fifty-seven almshouses support 22,180, at an expense of about. . . . .	1,100,000 00
Our school for blind supports 183, at an expense of about. . . . .	69,955 76
Our school for deaf and dumb supports 227, at an expense of about. . . . .	52,873 25
Our school for feeble minded supports 180, at an expense of about. . . . .	18,500 00
Two juvenile reformatories support 970, at an expense of. . . . .	95,433 00
Two penitentiaries support 1,033, at an expense of. . . . .	129,949 00
Pupils in public schools 800,000, cost. . . . .	8,500,000 00

Forty orphan asylums, homes for the friendless, &c., are chiefly supported by private contributions or churches. We have ten hospitals supported by endowments or private contributions. Girard College endowed with \$5,000,000 supports 560 pupils. The National Government alone provides support for its soldiers and sailors in war and merchant vessels.

Nearly all the specifications under the letters a, b, c, d and e, are provided for in some one or other of the institutions above referred to. I doubt if any other State of the Union includes a wider range of charitable institutions. Their administration is generally good, combining a prudent economy with a liberal disposition to permit no worthy subject to be uncared for. The details you will find largely stated in the reports which I send you. These embody more statistics than ever can be mastered by your Italian clerks unless they possess the patience of Job.

You also transmitted me a duplicate of your inquiries to answer for the city of Harrisburg. My connection is with the State government and the reports of the Board of Charities include returns of three small institutions of this city.

All of which is respectfully submitted.

THOS. J. BIGHAM,  
*Commissioner.*

## COUNTY PRISONS.

NAMES OF COUNTIES.	Management. Sheriff or inspector.	When erected.	Cost.	No. of cells.	Articles manufactured.	Annual cost per capita.	County appropriation.
Adams.....		1868,		14			
Allegheny.....		1868,		50		\$89 42 <sup>1</sup>	\$9,432 56
Allegheny work-house.....		1868,	\$500,000 00	400	Barrels, bricks, &c.....	Income, \$13,247 13, leaving cost per capita about \$12.	
Armstrong.....		1871,	100,000 00	24			
Beaver.....		1856,	54,000 00	28			
Bedford.....	Matron.....	1835,		5			1,000 00
Berks.....	Under keeper.....	1847-66,	136,580 00	91	Ingrain, rag and ve- nitian carpet weav- ing, boot and shoe making.	\$79 75	33,989 31
Blair.....		1868,		28			
Bradford.....	Sheriff's wife.....	1849,	65,000 00	4			
Bucks.....		1812,		9		182 50	1,211 50
Butler.....		1867,	30,000 00	6			
Cambria.....		1870,	78,000 00	28			
Cameron.....		1867,	13,000 00	4			
Carbon.....		1850,	66,700 00	28		200 00	
Centre.....		1867-68,	54,000 00	20			
Chester.....	Keeper.....	1838,	38,182 00	48	Caning, spooling, broom making, weaving carpet & cloth.	125 00	5,300 00
Clarion.....		1840,		6			
Clearfield.....		1841,		3			
Clinton.....		1842,		4			1,600 00
Columbia.....		1847,	3,400 00	4			
Crawford.....		1849,		16			
Cumberland.....			45,000 00	36			
Dauphin.....		1841,		40			
Delaware.....	Inspector or keeper,	1851-67,		38	Carpet and cloth weaving, broom and shoe making.	153 30	4,532 75
Elk.....		1847,	2,700 00	4			
Erie.....		1869,	50,000 00	36		182 50	
Fayette.....		1854,		16			
Forest.....		1868,	8,000 00	6			
Franklin.....		1818,		8			
Fulton.....		1851,		4			
Greene.....		1836,	4,000 00	2			300 00
Huntington.....	Co. commissioners.....	1823,		2			1,000 00

COUNTY PRISONS--Continued.

NAMES OF COUNTIES.	Management. Sheriff or inspector.	When erected.	Cost.	No. of cells.	Articles manufactured.	Annual cost per capita.	County appropriation.
Indiana.....		1839,		5		\$182 50	\$400 00
Jefferson.....		1856,	\$20,000 00	20			
Juniata.....		1833,		6			
Lancaster.....	Keepers	1850,		80	{ Carpet and bagging } weaving, segar, net	328 50	27,295 71
Lawrence.....		1850,	28,000 00	8	{ and shoe making. }		
Lebanon.....		1814-60,		14			
Lehigh.....	Inspectors	1867,	200,000 00	40	Carpet weavings.		
Luzerne.....	Keepers		250,000 00	72		240 00	3,500 00
Lycoming.....		1867,	125,000 00	39			
McKean.....		1848,	3,000 00	4			
Mercer.....	Keeper	1868,	70,000 00	12			
Mifflin.....	Matron	1856,	23,500 00	20			
Monroe.....		1837,		8			
Montgomery.....		1851,		40	Shoe making	165 00	10,600 00
Montour.....				4			
Northampton.....		1868,	150,000 00	52		182 50	
Northumberland.....	Keep			6			
Perry.....		1826,		6	Boot and shoe making.		
Philadelphia.....	Matron.	1831,		506		130 00	152,619 35
Pike.....		1814,		2			
Potter.....		1869-70,	33,500 00	8			13,963 51
Schuylkill.....	Keeper..	1851,	125,000 00	38	{ Shoe making, weav- } ing, preparing }	135 00	13,963 15
Snyder.....		1856-57	2,500 00	4	{ yarn for weaving, }	60 00	
Somerset.....		1852-53,		9			
Sullivan.....		1850,	2,500 00	4			
Susquehanna.....		1867,	33,897 13	16			
Tioga.....	Sheriff.	1861,	14,000 00	8		200 00	1,750 00
Union.....		1854,		7			500 00
Venango.....	Keeper	1865,	37,000 00	20		150 00	5,566 00
Warren.....		1864,		15			
Washington.....		1867,	70,000 00	9			
Wayne.....		1857,		8			
Westmoreland.....		1855,		20			
Wyoming.....		1868,	18,000 00	6			
York.....		1853,	60,000 00	35			



PENITENTIARIES, Houses of Refuge, Asylums, &c.

PENITENTIARIES.

PENITENTIARIES.								
	Opened .....	Acres of ground	Value of real estate .....	Value of improvements ..	Salaries of officers.....	Expenses of maintenance,	Whole No. of prisoners.....	Average .....
Eastern .....	1829,	13	\$1,000,000	\$716,620 00	\$27,000 00	\$76,978 00	840	610
Western .....	1827,	7½	300,000	628,607 42	24,350 00	52,971 00	599	423
<i>Houses of Refuge:—</i>								
Eastern .....	1826,		200,000	523,300 00	18,370 86	70,111 31	1,239	728
Pennsylvania Reform School .....	1850,	15	250,000	150,000 00	16,500 00	25,321 69	256	242
New location .....		505	87,500	250,000 00				
<i>Asylums:—</i>								
Blind .....	1833,	{ Lots on Race, Summer and 21st streets. }	100,000	200,000 00	12,709 00	66,955 76	183	
Deaf and Dumb .....	1821,		{ Broad & Pine sts., 2 acres. }	150,000	125,000 00	18,440 42	52,873 25	227
<i>Training School:—</i>								
For Feeble Minded Children, Media .....	1853,	89	40,000	169,618 00	12,500 00	48,500 00	180	



PENITENTIARIES.

STATISTICS FOR THE NINE MONTHS ENDING SEPTEMBER 30, 1873. -

The number of convicts in the penitentiaries on January 1, 1873, was 1,084, and the number committed during the nine months ending September 30, 287, making a population of 1,371. During the same period, there were discharged, 362, leaving in the institutions, on September 30, 1873, 1,009 convicts, thus :

	White.		Colored.		Total.
	Males.	Fem.	Males.	Fem.	
On January 1, 1873, there were .....	942	15	124	3	1,084
Admitted during the nine months .....	239	3	43	2	287
Population.....	1,181	18	167	5	1,371
Discharged .....	317	5	38	2	362
Remaining September 30, 1873.....	864	13	129	3	1,009



*Miscellaneous Statistics*, relating to the House of Refuge and Reform School :

	HOUSE OF REFUGE, PHILADELPHIA.			REFORM SCHOOL, PITTSBURG.	Aggregate.
	White department.	Colored department.	Both departments.		
When opened .....	1828.	1850.		1854.	
Number of acres of land.....			11	13	24
Cost of ground .....			\$18,000 00	\$10,000 00	\$28,000 00
Cost of buildings.....	\$279,500 00	\$94,000 00	373,500 00	150,000 00	523,500 00
Capacity.....	622	198	820	228	1,048
Value of real estate, including buildings..	\$698,661 00	\$201,339 00	\$900,000 00	\$300,000 00	\$1,200,000 00
Value of personal property.....	20,220 00	5,780 00	26,000 00	50,000 00	76,000 00
Receipts for 1872, excluding labor .....			\$111,229 02	55,239 61	166,468 63
Receipts from labor of inmates .....	25,801 57	3,827 76	30,629 33	3,856 25	34,485 58
Expenditures for 1872, excluding salaries..			\$115,949 00	46,397 46	162,346 46
Expenditures for salaries and wages .....	14,160 19	5,416 28	19,576 47	16,302 36	35,888 83
Average number of inmates.....	442	116	558	242	800
Cost per capita, nett.....	\$86 92	\$131 69	\$108 80	\$172 04	\$140 42
Number of volumes in library .....	1,000	1,500	2,500	1,894	4,894

MISCELLANEOUS STATISTICS—Continued.

	HOUSE OF REFUGE, PHILADELPHIA.			REFORM SCHOOL, PITTSBURG.			RECAPITULATION.		
	White.		Colored.	White.		Colored.	White.		Colored.
	Male.	Female.		Male.	Female.		Male.	Female.	
Avg. No. of inmates for 1872.....	336	76	89	163	56	16	529	132	96
Average age of those received.....	14	14.8	12.8	14.3	12.9	14.9	13.4	14.8	12.5
Age of the eldest .....	19	19.8	19.5	16	18	19	14	11	16.2
Age of the youngest .....	8.3	10.6	7	9	8.7	8	12	11	10.5
Largest No. in instit'n in 1872.....	381	83	90	39	170	59	17	9	255
Smallest No. in instit'n in 1872.....	358	67	69	31	157	53	15	5	230
No. of volumes in library .....	830	170	1,040	460	1,322	393	139	49	1,894
Time in institution of those discharged, months.....	16.2	22	27	28	21.4	14.6	23.6	17.5	18.8

*School Statistics*, exhibiting the number of each sex in attendance at the beginning of the year; during the year; number discharged from the schools; number remaining on the roll :

	HOUSE OF REFUGE, PHILADELPHIA.			REF. SCHOOL, PITTSBURG.			RECAPITULATION.		
	White.		Colored.	White.		Colored.	White.		Colored.
	Boys.	Girls.		Boys.	Girls.		Boys.	Girls.	
Number in attendance at last report.....	335	66	81	38	529	173	57	230	589
Admitted to school during the year .....	222	52	48	31	353	88	36	124	358
School population for the year .....	557	118	129	69	873	261	93	354	947
Discharged from school in the year .....	195	41	42	32	310	71	27	98	308
In attendance at close of year.....	362	77	87	37	563	190	66	256	630

\* Including furniture.

† Including a loan of \$35,600.

‡ Including \$9,658 03.

## CRIMINAL COURTS.

## TABULAR STATEMENT

*Of the Sessions of Criminal Courts in Pennsylvania.*

[The sittings of all the courts (except in Sullivan county) commence on Monday, and the figures in the columns of months indicate the 1st, 2d, 3d or 4th Monday of the month in which the sittings commence.]

COUNTIES AND COURTS.	January	February	March	April	May	June	July	August	September	October	November	December
Adams	4			3				3			4	
Allegheny			1			1			1			1
Armstrong			1			1			1			1
Beaver			3			2			1			
Bedford		1						4			3	
Berks				3				1			1	
Blair	4			4			4			4		
Bradford		1			1				1			1
Bucks		1		4					2			1
Butler	2		2			3				3		
Cambria			1			1			1			1
Cameron	3			3				2			2	
Carbon	3		4			3				3		
Centre	4			4				4			4	
Chester	4			4						3		
Clarion	4			4				4			4	
Clearfield	2		3			1			4			
Clinton		2			2				2			2
Columbia		1			1				1			1
Crawford	2			2				2			2	
Cumberland	2			2				4			2	
Dauphin	3			4							3	
Delaware		4			4			4			4	
Elk	2			2				1				
Erie		3			1				4		3	
Fayette			1			1						1
Forest		4			4				4			4
Franklin	3			2				2		4		
Fulton	2					2				3		
Greene				2		2			4			3
Huntingdon	2			2				2			2	
Indiana				1					3			3
Jefferson		2			2				2			2
Juniata		1							1			1
Lancaster	3			3				3			3	
Lawrence		2							2			2
Lebanon	1			3				3			1	
Lehigh	1			1		1			3	4		
Luzerne	1			1					1		1	
Lycoming	4			4				4			4	
McKean		4				3			4			3
Mercer		3			3				3			3
Mifflin	2			2				4			4	
Monroe		4			4				4			1
Montgomery		4			3			3			2	
Montour		3			3				3			3
Northampton	3			4							3	
Northumberland	1		2					1			1	
Perry	1				1		1		1	4		1
Philadelphia	1	1	1	1	1	1	1	1	1	1	1	1
Pike		3			3				3			3
Potter		3				2			3			2
Schuylkill			1			1			1			1
Snyder		4			4				4			2
Somerset		3			1				2		4	
Sullivan		*4			*4				*4			
Susquehanna	2			2				2			2	
Tioga	4				4			4			4	
Union		3			3				3			3
Venango	4			4				4			4	
Warren			1			1			1			1
Washington		3			3			3				2
Wayne		1			1				1			1
Westmoreland	3			3				3			3	
Wyoming	3			3							1	
York	1			4				4			1	

\* Tuesday.

## ABSTRACT OF REPORTS BY PROTHONOTARIES OR CLERKS OF CRIMINAL COURTS.

*Statement of the criminal business of the courts in the several counties of the Commonwealth, showing the number of persons charged with crime, number of bills laid before the several grand juries, number of bills returned, number of bills ignored, number of presentments made; also number of bills tried, number of acquittals and convictions, number of nolle prosequies entered, number who plead guilty to indictment, the number and amount of recognizances forfeited.*

COUNTIES AND COURTS.	TERMS OF THE COURTS OF WHICH RETURNS HAVE BEEN RECEIVED.	Number of persons char'd with crime	GRAND JURY.				COURT PROCEEDINGS.					RECOGNIZAN'S FORFEITED.	
			Tot. bills laid before grand jury .....	No. returned as true bills,	No. returned ignored ....	Number present's made	No. of bills tried .....	Number of acquittals,	No. of convictions...	No. of nolle prosequies,	Numb. plead guilty to indictment...	Number ....	Amount ....
Adams.....	Nov., Jan., April, August.	79	64	44	20	45	23	10	13	22	3		
Allegheny.....	Dec., March, June, Sept....	1,725	1,491	877	55	15	441	299	287	230	249	2	\$500
Armstrong.....	Dec., March, June, Sept....	165	146	90	26		54	13	45	5	1	2	550
Beaver.....	Nov., March, June, Sept....	89	78	52	3		20	14	4	7	17	2	1,500
Bedford.....	Nov., Feb., April, August.	64	25	21	3	19	13	6	6	16	2	5	48,925
Berks.....	Nov., Jan., April, August.	266	154	138	43	72	51	26	27	5	35	86	3,000
Blair.....	Oct., Jan., April, July.....	118	118	93	26		35	7	29	19	20	8	1,500
Bradford.....	Dec., Feb., May, Sept....	171	93	59	40		24	17	26	35	11	4	4,750
Bucks.....	Dec., Feb., April, Sept....	209	143	98	49	1	68	28	43	34	13	23	1,000
Butler.....	Oct., Jan., March, June....	262	150	99	51	2	9	11	17	22	13	4	
Cambria.....	Dec., March, June, Sept....	57	55	48	5	12	28	15	16	2	6		
Cameron.....	Nov., Jan., April, Aug....	14	12	5	7	4	3	1	2	3	1		
Carbon.....	Oct., Jan., March, June....	79	43	45	11	7	15	9	16	2	5	10	3,000
Centre.....	Nov., Jan., April, Aug....	125	117	71	21	1	23	6	15	31	16	10	3,800
Chester.....	Oct., Jan., April, August....	156	225	164	56	25	148	54	78	1	11	28	5,600
Clarion.....	Nov., Jan., April, August....	153	129	116	14	91	22	8	15	5	12	5	
Clearfield.....	Jan., March, June, Sept....	237	92	68	23	2	25	4	39	43	17	33	9,500
Clinton.....	Dec., Feb., May, Sept....	160	127	75	52	91	26	13	19	7	18		
Columbia.....	Dec., Feb., May, Sept....	49	31	20	7	5	12	4	10	4	1	2	1,800
Crawford.....	Nov., Jan., April, August....	185	172	125	47		67	26	41	6	8		
Cumberland.....	Nov., Jan., April, August....	159	143	111	33	22	48	18	37	10	14	2	400
Dauphin.....	Nov., Jan., April, August....	471	276	172	104	41	101	19	86	3	25	27	1,300
Delaware.....	Nov., Feb., May, August....	96	95	55	38	88	46	19	27	9	4		
Elk.....	Nov., Jan., April, August....	45	23	22	5	12	8	7	3	12	4	7	1,350



STATEMENT OF THE CRIMINAL BUSINESS OF THE COURTS OF THE COMMONWEALTH *Continued.*

COUNTIES AND COURTS.	TERMS OF THE COURTS OF WHICH RETURNS HAVE BEEN RECEIVED.	GRAND JURY.			COURT PROCEEDINGS.				RECOGNIZAN'S FORFEITED.		
		No. returned as true bills.	No. returned ignored.	No. presentments made.	No. of bills tried,	No. of acquittals,	No. of convictions.	Number of nolle prosequies.....	No. plead guilty to indictment..	Number.	Amount.
Erie.....	Nov., Feb., May, Sept.....	244	205	39	83	67	35	79	68	37	\$9,650
Mayette.....	Dec., March, June, Sept.....	277	158	121	70	20	49	36	5	2	400
Forest.....	Dec., Feb., May, Sept.....	4	2	2	1	1				2	
Franklin.....	Oct., Jan., April, August.....	165	103	62	59	25	33	70	10	4	609
Fulton.....	Oct., Jan., April, August.....	24	22	3	14	5	8	12	5	2	609
Greene.....	Dec., April, June, Sept.....	56	32	23	7	1	5	3	3		
Huntingdon.....	Nov., Jan., April, August.....	61	46	9	22	11	12	21	10	4	1,500
Indiana.....	Dec., April, June, Sept.....	50	33	17	16	24	5	17	2		
Jefferson.....	Dec., Feb., May, Sept.....	57	42	16	24	12	12	36	9	1	200
Junata.....	Dec., Feb., April, Sept.....	49	29	19	9	3	13		4	1	409
Lancaster.....	Nov., Jan., April, August.....	391	276	115	140	86	40	2	40	6	1,650
Lawrence.....	Dec., Feb., May, Sept.....	95	68	12	31	7	15	18	7	13	1,850
Lebanon.....	Nov., Jan., April, August.....	60	42	18	50	10	25	52	4	4	1,700
Lehigh.....	Oct., Jan., April, June.....	262	231	30	176	32	133	55	22	1	
Luzerne.....	Nov., Jan., April, Sept.....	840	577	246	105	33	79	20	29	24	1,000
Lycoming.....	Nov., Jan., April, August.....	128	94	33	62	8	59	89	7	3	900
M'Kean.....	Dec., Feb., June, Sept.....	36	34	2	15	6	10	1	10		
Mercer.....	Dec., Feb., May, Sept.....	159	123	37	37	24	21	18	30	7	350
Mifflin.....	Nov., Jan., April, August.....	23	21	10	7	3	10	3	3	5	800
Monroe.....	Dec., Feb., May, Sept.....	38	28	10	12	5	6	5	2	6	1,800
Montgomery.....	Nov., Feb., May, August.....	296	209	68	251	28	118	24	20	2	
Montour.....	Dec., Feb., May, Sept.....	21	13	13	9	4	8	17	2	1	
Northampton.....	Nov., Jan., April, August.....	132	106	26	83	16	58	4	27	3	900
Northumberland.....	Nov., Jan., March, August.....	104	71	33	27	11	18	4	8	14	5,350
Perry.....	Oct., Jan., May, August.....	21	21	10	7	10	1	20	4	1	
Philadelphia.....	Every month in the year.....	3,691	3,792	1,774	2,617	1,533	791	10	438	17	28,300
Pike.....	Dec., Feb., May, Sept.....	5	5	7	6		3	1		1	200
Potter.....	Dec., Feb., June, Sept.....	21	11	10	1						800

STATEMENT OF THE CRIMINAL BUSINESS OF THE COURTS OF THE COMMONWEALTH—Continued.

CRIMINAL COURTS.

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COUNTIES AND COURTS.	TERMS OF THE COURTS OF WHICH RETURNS HAVE BEEN RECEIVED.	GRAND JURY.			COURT PROCEEDINGS.					RECOGNIZ FORFEITED.	
		No. returned as true bills	No. returned ignored	No. presentments made	No. of bills tried,	No. of acquittals,	No. of convictions	Number of nolle prosequies	No. plead guilty to indictment	Number.	Amount.
Schenckskill	Oct., Jan., April, July	331	84	234	162	83	134	158	27	8	\$5,300
Snyder	Dec., Feb., May, Sept	9	7		1		1	2		21	350
Somerset	Nov., Feb., May, Sept	41	34	3	25	11	13	6		1	300
Sullivan	Dec., Feb., May, Sept	11	10	8	8		9	6	3	1	200
Susquehanna	Nov., Jan., April, August	35	20	8	8	4	5	8	3	2	300
Tioga	Nov., Jan., May, August	80	48		6	4	11	21	2	14	7,350
Union	Dec., Feb., May, Sept	19	17		8	13	4	4			
Venango	Nov., Jan., April, August	169	128		70	25	46	33	21	3	4,000
Warren	Dec., March, June, Sept	63	45	2	11	8	5	11	5	13	4,400
Washington	Dec., Feb., May, August	36	33		23	5	20	13	4	5	600
Wayne	Dec., Feb., May, Sept	48	27	37	12	6	6	6		3	400
Westmoreland	Nov., Feb., May, August	121	87	7	45	15	29	29	19	1	670
Wyoming	Nov., Jan., April, August	30	20	30	5	1	3	2	1		
York	Nov., Jan., April, August	257	163	83	37	25	10	2	22	11	4,200
Total		14,458	10,149	1,503	5,650	2,819	2,764	1,438	1,382	481	170,495

## CHARITABLE INSTITUTIONS.

## SUPPORT AND EMPLOYMENT OF THE POOR.

William Penn, in the thirty-sixth section of his great law, passed at Chester on the 7th day of October, 1682, enacted "That if any persons shall fall into decay and poverty and be unable to maintain themselves and children, or who shall die and have poor orphans, the public shall provide for their comfortable subsistence."

This is the corner stone of the Pennsylvania poor laws. In the simplest age of the province the township system for the support of the poor grew up, and we are surprised to find that thirty-two counties of Pennsylvania, in whole or in part, yet adhere to this township system. The larger and wealthier counties of the State, containing fully four-fifths of the population and wealth of the State, have adopted the improved system of sustaining their poor and unfortunate in one or more large almshouses. Each of these systems is presented in the following tables, showing the summary of the expenditure incurred in the support of this unfortunate class of our fellow citizens.

The following table shows how many counties, in whole or in part, adhere to what is usually called "the township poor."

The second table exhibits an abstract of the almshouses.



TOWNSHIP POOR.—1872.

STATEMENT of amount expended for support of township poor, for legal and other expenses; also, the amount of receipts, net cost and amount raised by taxation for support of the poor.

COUNTIES.	EXPENDED FOR SUPPORT OR RELIEF OF THE POOR.								Net cost of relief	Amount raised by taxation for support of the poor
	Paid to overseers for their services.....	Paid to justices of the peace, and for other legal expenses.....	Paid for medical attendance and medicines.....	Paid for clothing.....	Paid for relief of the poor.....	Paid for support of insane poor.....	Paid for transportation.....	Paid for other purposes, or not specified.....		
Armstrong	\$570 00	\$76 60	\$497 35	\$204 86	\$6,664 41	\$167 50	\$49 50	\$181 23	\$8,411 45	\$7,854 12
Bradford	467 75	58 08	254 35	386 04	5,093 21	936 00	40 50	378 25	7,627 68	4,747 81
Butler	234 71	16 25	295 00	228 13	2,938 20	252 00	20 00	351 00	4,345 39	4,457 07
Cameron	30 00	5 00	25 00	5 00	623 00			2 00	690 00	665 35
Carbon	71 00	4 00	55 00	48 17	1,410 80				1,594 97	1,622 07
Centre	385 25	43 72	299 25	453 63	4,568 58		23 75		5,846 18	5,665 27
Clearfield	298 00	10 05	123 00	154 84	2,940 77		124 85		3,589 01	3,589 01
Glenfield	420 11	57 08	213 30	209 50	2,414 06		20 25	160 00	3,482 08	3,482 08
Clifton	303 07	90 70	192 60	253 97	3,768 51		13 00	30 00	4,621 15	4,272 41
Columbia	271 25	111 16	134 50	250 32	3,602 15	158 00	31 71	156 70	4,773 79	3,767 13
Elk	21 00		83 30	26 00	762 00		4 00		897 00	390 00
Forest	10 00				305 03				326 76	243 97
Fulton	22 50	2 50		6 38	102 40				133 78	
Indiana	225 79	13 40	175 39	163 75	1,319 69		54 50	1,227 11	3,179 63	3,354 62
Jefferson	120 98	48 00	93 80	53 82	1,028 75	158 00	3 00	251 54	1,787 36	1,512 90
Juniata	230 00	18 95	78 50	184 61	2,451 87	162 65			3,126 58	4,291 20
Lancaster	291 00	87 62	145 50	152 55	3,949 35	312 00	32 00	10 25	4,550 31	3,083 13
Luzerne	297 16	146 70	145 67	274 55	3,217 87		123 00	303 00	4,500 95	4,290 88
Lycoming	282 19	191 50	157 15	247 38	3,744 18		149 60	190 00	4,912 00	3,353 23
M'Kean	28 00	26 00	27 07	27 07	867 82		70 00		988 89	652 82
Monroe	141 50	12 00	155 00	184 00	1,707 00				2,266 50	2,111 00
Montgomery	63 00	1 00	13 00	60 00	640 62				777 62	171 65
Northumberland	310 00	124 00	328 80	330 05	6,131 57		78 30	43 12	7,385 84	4,307 65
Philadelphia	54 00	21 25	32 27	38 54	1,502 89				1,708 95	1,653 69
Pik.	2 00				39 45				41 85	
Po ter	26 40	3 00	3 00	44 10	735 87		18 00	437 45	1,310 52	1,133 63
Snyder	46 00	36 91	220 25	288 20	2,374 41		39 25		3,490 05	2,994 06
Sullivan	6 00				619 00			325 00	850 00	552 93
Susquehanna	178 34	28 49	75 30	152 03	2,294 69	173 65	161 55		3,044 37	2,195 13
Union	290 75	73 60	205 50	162 53	2,830 60		32 00		3,650 98	3,650 98
Venango	63 20	20 00	27 00	65 78	2,065 73		144 15		2,403 86	2,229 62
Wayne	434 57	39 80	298 10	223 64	5,206 36		224 51	94 91	6,433 89	1,854 41
Wyoming	321 00	270 80	67 25	74 65	2,524 74		28 80		3,310 40	6,453 89
Totals.....	6,841 62	1,661 63	4,411 63	4,935 62	80,230 51	2,315 89	1,494 29	4,099 06	106,503 25	85,747 73

## ALMSHOUSES.

ALMSHOUSES.	LAND.		BUILDINGS.		Value of real estate, including buildings	AT THE ALMSHOUSE.			Total cost of outdoor relief	Total net expenses almshouse and outdoor relief
	No. of Acres.	Cost.	Cost.			Total relieved	Value of pauper labor	Total expenditures.		
Adams county almshouse.	270				\$25,000		Unknown.	\$11,000 00	\$1,094 00	\$6,934 00
Allegheny county home.	205	\$18,450	\$35,000		100,000	407	\$5,560 00	22,586 15	8,233 79	21,170 23
Allegheny city poor-house.	60	4,320	12,000		135,000	380	550 00	25,542 35	6,488 15	28,868 11
City Farm for Pittsburg.	149	14,900	40,000		150,000	562		16,177 21	11,387 81	26,418 48
Beaver county almshouse.	135	6,750	18,000		32,500	67	800 00	7,055 86		7,505 72
Bedford county almshouse.	525	12,500			15,896	136	200 00	6,991 56	1,881 40	8,872 96
Berks county almshouse.	414	24,158			70,000	667		31,391 94	2,041 29	29,285 75
Blair county almshouse.	267	10,000	5,700		28,350	157		7,800 00	6,225 75	8,245 75
Bucks county almshouse.	360	7,232	60,000		116,600	571	2,685 00	22,356 47	1,364 34	23,412 98
Cambria county almshouse.	164	4,500	11,000		35,000	66		10,015 43	2,500 00	12,515 43
Carbon county, Middle Coal Field poor district.	340				56,000	168	2,400 00	24,970 80	994 19	25,310 18
Chester county almshouse.	364	21,250	35,373		65,000	395	2,000 00	21,571 22	806 92	17,768 41
Clinton county, Lock Haven poor-house.	1.9				2,000	49		538 15	1,583 98	2,122 13
Columbia county, Centralia poor-house.	75	4,500	940		6,200	24	75	610 78	1,804 87	2,365 65
Columbia co., Poor dist. of Bloomsb'g, poor-house.	100	12,600	5,300		16,000	34		996 50	110 50	1,107 00
Crawford county almshouse.	215	13,100	31,000		44,000			13,723 58	2,110 04	15,508 78
Cumberland county almshouse.	300	22,500	12,000		40,000	292	400 00	4,134 00	2,600 00	6,734 00
Dauphin county almshouse.	180	16,000	90,000		15,000	401	300 00	23,318 62	6,531 55	28,876 47
Delaware county almshouse.	102	16,350	46,500		65,000	317	1,000 00	20,261 22	4,102 95	24,002 95
Erie county almshouse.	100	Donation			150,000	188		17,467 68	18,495 64	34,897 82
Fayette county almshouse.	129				30,000	126	300 00	7,543 47	1,944 04	8,317 42
Franklin county almshouse.	233									
Greene county almshouse.	147	5,000	7,000		25,000	93	300 00	6,133 46	91 10	6,129 94
Huntingdon county almshouse.	190	7,000	5,979		15,000	62	50 00	7,097 16	1,959 95	9,057 11
Lancaster county almshouse.	195				160,000	622		42,280 26	3,240 36	42,680 49
Lawrence county, New Castle poor-house.	43.5	Donation	5,000		9,400	12		3,400 00	315 00	3,635 00
Lebanon county almshouse.	189				80,000			12,655 24	3,104 00	14,789 29
Lehigh county almshouse.	245	26,950	16,000		75,000	373	1,500 00	14,839 18	1,972 11	16,089 65
Lycoming county, Williamsport city poor-house.	5	1,600						5,563 46		5,563 46
Luzerne county, Providence poor-house.	126	7,000	7,100		28,050	113	600 00	4,150 71		4,150 71
Luzerne county, Central poor-house.	140	9,500	7,685		25,000	111		5,833 43		5,833 96

## ALMSHOUSES—CONTINUED.

ALMSHOUSES.	LAND.		BUILDINGS.		Value of real estate, including buildings.....	AT THE ALMSHOUSE.		Total cost of outdoor relief.....	Total net expenses alms-house and outdoor relief.....
	No. of acres.	Cost.	No.	Cost.		Total relieved ...	Value of pauper labor .....		
Luzerne county, Lackawanna poor-house.....	149	\$6,000			\$12,000	27	\$52 00	\$480 00	4,300 06
Do..... Carbondale city poor-house.....	90	3,500			5,000	7		1,584 35	2,175 80
Do..... Blakely poor-house.....	70	3,500			5,000	61			2,757 00
Do..... North Luzerne poor dist. poor-house,	120	9,000		\$1,200	12,000				1,993 03
Mercer county almshouse.....	112	4,640		6,000	12,000	147	250 00	2,936 14	11,248 41
Mifflin county almshouse.....	200	17,000		5,000	20,000	55	50 00	2,227 25	6,384 76
Montgomery county almshouse.....	295				44,000	271	3,000 00	4,150 12	19,362 36
Montour county, Danville and Mahoning poor-house..	115	10,000			16,000	99			5,496 41
Do..... Valley township poor-house.....	112	3,625			4,000	4		107 00	890 00
Northampton county almshouse.....	360			19,500	63,600	391		1,393 61	11,984 39
Perry county almshouse.....	172	5,196		3,700	12,000	92	500 00	894 50	5,710 11
Philadelphia county, (city) almshouse.....	170	51,762		859,744	2,000,000	9,765	28,816 00	107,176 39	389,728 27
Do..... Roxboro' poor-house.....	40								
Do..... Germantown poor-house.....	14	1,200		26,250	60,000	48		4,809 65	8,727 08
Do..... Oxford and Lower Dublin poor-house.....	146	10,000		30,000	66,500	118		1,622 55	4,077 35
Schuylkill county almshouse.....	268	7,000		85,000	128,500	586	1,500 00	8,636 35	46,549 89
Somerset county almshouse.....	235	5,000		10,000		50		1,171 76	6,571 76
Susquehanna county, Auburn and Rush asylums.....	157	6,280			7,500	10	100 00	122 75	8,986 42
Do..... Montrose and Bridgewater asylum.....	125	4,500			5,600	7		302 66	1,019 96
Do..... New Milford poor asylum.....	96	5,100			4,000		25 00		454 50
Tioga county almshouse.....	180	7,400		12,000	20,000	84	250 00	606 86	4,733 77
Warren county, Rouse hospital.....	400	13,500		23,000	30,000				6,744 00
Washington county almshouse.....	209	6,250			51,800	177		268 45	6,098 46
Wayne county, Honesdale and Texas poor-house.....	118							215 00	3,387 29
Westmoreland county almshouse.....	186	4,092		7,525	36,000	259	1,000 00	4,295 67	14,690 30
York county almshouse.....	130	1,630		124,000	200,000	359		461 40	29,113 29
Total.....	10,336½	452,635		1,664,696	4,430,456	19,010½	54,463 00	231,296 05	1,051,013 69



## MISCELLANEOUS STATISTICS.

HOSPITALS FOR THE INSANE.—*Whole number of admissions and discharges from the beginning of each respective Hospital, to December 31, 1872.*

ADMISSIONS AND DISCHARGES.	State Lunatic Hospital, for 22 years.		West'n Penn'a Hospital, for 17 years.		State Hos'l N. district, for 2 mos.		Friends' Asylum, for 56 years.		Pennsylvania Hospital, for 32 years.		Philadelphia Hospital, for 11 years.		RECAPITULATION.	
	Males.	Fem.	Males.	Fem.	Males.	Fem.	Males.	Fem.	Males.	Fem.	Males.	Fem.	Males.	Total.
Whole No. admitted ..	1,897	1,482	1,332	993	68	30	869	868	3,403	2,987	2,274	2,783	9,843	18,986
Disch'd restored.....	394	321	426	316	.....	.....	388	378	1,522	1,472	775	860	3,505	6,852
Do...improved.....	418	330	297	230	.....	.....	169	187	737	757	487	556	2,108	4,168
Do...unimproved.....	571	401	146	100	.....	.....	142	145	497	245	179	218	1,535	2,644
Do...died.....	312	231	214	140	.....	.....	128	122	441	324	457	601	1,554	2,972
Do...not insane.....	2	.....	5	5	.....	.....	.....	.....	.....	.....	13	16	20	41
Total discharged.....	1,697	1,283	1,088	791	2	.....	827	832	3,197	2,798	1,911	2,251	8,722	16,677
Per cent. on admissions of those received.....	20.77	21.66	31.98	31.83	.....	.....	44.65	43.55	44.73	49.28	34.08	30.90	35.61	36.09
Per cent. on admissions of those that died.....	16.45	15.59	16.06	14.10	2.94	.....	14.73	14.06	12.96	10.85	20.10	21.59	15.79	15.65
Per cent. on discharges of those restored.....	23.22	25.02	39.15	39.95	.....	.....	46.92	45.43	47.61	52.61	40.55	28.21	40.18	41.03
Per cent. on discharges of those who died.....	18.39	18.00	19.67	17.70	.....	.....	10.54	14.66	13.82	11.58	23.91	26.70	17.82	17.82
Number remaining in hospitals Dec. 31, 1872,	200	199	244	202	66	30	42	36	206	189	363	532	1,121	2,309

HOSPITALS FOR THE INSANE.—Civil condition of the 18,986 patients, being the whole number admitted into the respective hospitals.

CIVIL CONDITION.	STATE LUNATIC HOSPITAL.		WEST'N PENN'A HOSPITAL.		STATE HOSPITAL FOR N. DIST.		FRIENDS' ASYLUM.		PENNSYLVANIA HOSPITAL.		PHILADELPHIA HOSPITAL.		RECAPITULATION.	
	Males....	Females,	Males....	Females,	Males....	Females,	Males....	Females,	Males....	Females,	Males....	Females,	Males....	Total....
Single.....	849	715	711	363	39	6	432	396	1,676	1,246	62	57	3,759	6,532
Married.....	990	583	522	462	20	17	368	325	1,561	1,362	52	79	3,492	6,290
Widowed.....	89	181	69	167	3	7	43	92	166	379	1	34	371	1,234
Unknown.....				1	6		86	65			2,159	2,613	2,251	4,890
Whole number.....	1,897	1,462	1,332	993	68	30	869	868	3,403	2,987	2,274	2,783	9,843	18,986

FORMS OF INSANITY in the 18,986 patients admitted into the respective hospitals for the insane.

FORMS OF INSANITY.	STATE LUNATIC HOSPITAL.		WEST'N PENN'A HOSPITAL.		STATE HOSPITAL FOR N. DIST.		FRIENDS' ASYLUM.		PENNSYLVANIA HOSPITAL.		PHILADELPHIA HOSPITAL.		RECAPITULATION.	
	Males....	Females,	Males....	Females,	Males....	Females,	Males....	Females,	Males....	Females,	Males....	Females,	Males....	Total....
Mania.....	1,392	770	795	560	48	17	375	369	1,507	1,496	182	190	4,169	7,471
Monomania.....	35	11	72	49		1	41	30	305	367			680	1,117
Melancholia.....	459	537	243	394	4	4	71	83	767	950			1,575	3,490
Dementia.....	193	120	118	63	15	7	121	106	610	299			1,057	1,892
Delirium.....	1	6							14	5			15	26
Paralysis.....			29	3			3						32	35
Idiocy.....		1			1			1			5	9	8	3
Imbecility.....	15	7	35	17		1	5	4			9	11	8	11
Not insane.....	2												64	11
Unrecorded.....							253	226			2,078	2,673	2,331	2,799
Whole number.....	1,897	1,462	1,332	993	68	30	869	868	3,403	2,987	2,274	2,783	9,843	18,986

## THE TAX LAWS AND THE CONSTITUTION OF 1873.

## ARE OUR LAWS FOR THE ASSESSMENT AND COLLECTION OF TAXES IN CONFORMITY WITH THE CONSTITUTION OF 1873?

No former Constitution of Pennsylvania, colonial or State, has ever attempted to limit the admitted sovereign power of the Legislature in regard to the assessment and collection of taxes. Common law, common sense, and the direct responsibility of the representative to his constituents has been hitherto found a sufficient safeguard. I regret that the framers of our present Constitution did not leave well enough alone, or else use much clearer terms to express their meaning. No two members, even of the committee, seem to know what was meant by the first three lines of Article IX, section 1. If the purpose was to impose a limitation on the taxing power they ought to have more clearly expressed their meaning.

Under our former Constitution a peculiar system of taxation had grown up in our State. The Commonwealth collected from our great corporations most of the revenue necessary to pay the State expenses, leaving the burden of local taxation to be paid by the real and personal property as found upon the assessors' books. Did the framers of this new Constitution mean to change our tax system? Most of them that I have spoken to say "no," and point to the term "class" as the word, the corporations being a class upon which the Legislature may impose such taxation. The corporations do not recognize this as conclusive, and several of them have, as I understand, already entered appeals to test this matter in the Supreme Court.

Article IX, section 1, declares that "All taxes shall be uniform, upon the same class of subjects, within the territorial limits of the authority levying the tax, and shall be levied and collected under general laws." Now the Legislature is the authority levying State taxes, and I assume it can treat corporations as a class, and levy a tax upon them, and need not extend that to the general property of the citizen. But can the city councils of Philadelphia also decide that stock jobbing is a class, and levy thereon all the city expenses? Can the county commissioners of Lancaster county say real estate is a class, and we will levy upon it all the expenses of said county? Can the commissioners of Dauphin county say personal property is a class, and levy on it all the county expenses? Can the city councils of Pittsburg say that venders of merchandise are a class, and we will levy upon them the expenses of the whole city? And if these authorities can thus act, why can not every other board possessing the taxing power select



its class, and exhaust the last dollar this class owns? Such are some of the difficulties we encounter by this change.

Again, if any change is made by this Constitution, when and how does it take effect? Does the adoption of the Constitution nullify all laws inconsistent with its spirit and intent, or does this change only take place when the Legislature in accordance with the injunctions of the thirty-second section of the schedule shall have passed the laws necessary to carry these changes into effect? This last interpretation I assume to be the correct one. If not, half the laws in Purdon's Digest might by one or another be declared to be null and void. The Legislature may safely be trusted to determine what legislation must be changed to conform to the new Constitution, but to permit each citizen to decide this would bring endless confusion. For example, our legislation in regard to the levying and collection of taxes is not now regulated by general laws. The city councils of Philadelphia assess the entire taxation upon that city, amounting this year to \$12,800,000. But in Pittsburg, and probably all the other cities, the councils assess only city taxes, county commissioners the county taxes, school boards the school taxes, &c.

In regard to the collection of taxes there are several different systems. The system that has most probable claim for being considered a general law is the old system where the county commissioners appoint the township collectors. But nearly half the State has adopted the more modern system by which the county treasurer and deputies collect the taxes. The city taxes are usually all payable at the city treasurer's office. Now, however, this Constitution enjoins "that all taxes shall be levied and collected under general laws." The Legislature has not at its first session made all these changes, and can put in the plea that it is only enjoined as soon as may be after the adoption of this Constitution to make the necessary changes.

A carefully digested tax law, so as to do even approximate justice to all classes of citizens is the most difficult task ever undertaken by any legislative body, and an entirely perfect one never yet has been enacted by human legislators. No one session is sufficient for such a task unless a bill has been carefully matured by a former commission or committee. If the organic changes required by this new Constitution are to be completed within any reasonable time the sooner they are begun the better. I assume, that the duty of the coming Legislature will be to at least inaugurate measures looking to such a change, conforming our tax laws to the requirements of the new Constitution. Can that body hope for its ways and means committee to mature such a bill during its session? If so, it will certainly require a committee remarkable both for its industry and intelligence. Most probably a commission of experts is all that can be reason-

ably hoped for. I have therefore thought it within my province to collect such materials as might furnish the ground work of such a revision of our laws on the important subject of the levying and collecting taxes. The two leading inquiries upon this subject are: first, what is the probable amount of taxes annually assessed and collected for all purposes in our State; and second, how can this amount be most equitably and justly apportioned upon the entire property of the State. The amount of taxes assessed for State purposes constitutes only a small portion of those assessed under the authority of State laws, and the whole should be carefully considered by the Legislature in any action upon this subject, especially where the entire system is to be revised to conform to our new Constitution.

Our returns in regard to State taxes are full and accurate, but in regard to local taxation are wretchedly imperfect. I have procured returns from every county in regard to the amount assessed for county purposes in 1874. (See pages 5 and 6 of my present report.) But of the cities outside of Philadelphia not a single return. From the boroughs and townships nothing but an approximate estimate to enlighten us. In this respect we are very far behind the State of Ohio. In that State every local board imposing a dollar of taxation makes return to the county authorities. These in turn report to the State Auditor, and his annual report to the Legislature spreads the whole before the people of the State. That body is therefore as well informed in regard to local as it is in regard to State taxes. I suggest that some similar provision be inserted in your legislation in this State by which the amount of all local taxation will be reported to the county authorities, and by them annually reported to your Department of Internal Affairs to constitute a portion of the annual report of that department. By this means the Legislature will know the bearing of its legislation, and the people of the State the entire amount collected for local as well as State taxation. The State government is not likely to require in the future so great an amount of taxation as it has since the close of the war. In the legislation of 1873 and 1874, a considerable revision of our State taxes took place, and a reduction of fully a million, probably \$1,200,000.

I here insert, in tabular form, a table, showing the amount and the sources from which the same was collected for 1872 and 1873.

STATEMENT of receipts at the State Treasury from the several sources of revenue during the fiscal years ending November 30, 1872, and November 30, 1873.

SOURCES OF REVENUE.	1872.	1873.
<i>Corporations.</i>		
Railroad, canal, express, navigation and transportation companies	\$2,412,730 75	\$2,869,082 80
Coal, iron, improvement, mining and manufacturing companies	438,197 88	660,538 52
Passenger railway companies	74,134 40	74,537 19
Bridge, turnpike and plank road companies	31,231 61	34,368 25
Banks	341,021 31	342,499 63
Counties, cities and boroughs	102,464 21	107,057 19
Gas and water companies	36,750 26	50,633 92
Oil companies	90,482 93	48,221 37
Telegraph companies	6,564 50	7,952 01
Insurance companies, (domestic,)	116,389 59	113,990 76
Insurance companies, (foreign,) licenses, &c.	351,396 08	353,490 78
Premiums on corporation charters	101,584 74	68,343 76
Annuity for right of way, (Erie railroad,)	10,000 00	10,000 00
All other companies and associations.	24,693 01	46,636 00
<i>Miscellaneous taxes.</i>		
Tax on personal property	561,316 12	541,607 91
Notaries public, tax on receipts	1,683 67	2,711 27
Notaries public, commissions.		7,450 00
Tax on enrolment of laws.	30,080 00	36,800 00
Tax on logs.	900 00	1,500 00
Tax on writs, wills, deeds, &c.	119,380 32	113,117 52
Tax on certain offices.	20,770 56	10,723 89
Collateral inheritance tax	354,819 98	327,973 99
Tavern licenses.	346,116 70	321,322 73
Retailers' licenses.	424,941 83	424,974 89
Theatre, circus and menagerie licenses.	3,020 45	5,121 75
Billiard, bowling saloon and ten-pin alley licenses.	7,064 59	10,552 94
Eating-house, beer-house and restaurant licenses.	42,316 81	42,165 02
Peddlers' licenses	2,679 61	2,830 38
Brokers' licenses.	5,335 75	10,736 98
Patent medicine licenses	1,112 00	3,875 91
Brewery and distillery licenses.	5,821 45	8,009 47
Millers' tax.	641 16	4,486 84
Pamphlet laws	510 20	714 67
Fees of public officers.	5,801 00	19,681 57
Auctioneers' commissions and duties.	36,703 97	
Auctioneers' commissions.		13,765 34
Fines and penalties		4 00
<i>Collections on outstanding indebtedness.</i>		
Refunded cash	4,938 05	3,715 70
Dividends on bridge stocks.	240 00	
Sale of public property and escheats.	26,202 45	
Sale of public property		100 00
Cases of conscience.	880 00	945 00
Accrued interests	4,204 31	4,297 97
Lands patented.	45,724 73	53,035 48
Commutation of tonnage tax, as per act, 1861.	460,000 00	230,000 00
Allegheny Valley railroad, interest on bonds, per act 1869,	87,500 00	87,500 00
	6,738,346 95	7,077,073 40



I think our laws as now revised will, in future, yield about as follows :

From corporations, about.....	\$3,500,000
From miscellaneous sources, about .....	2,000,000
From outstanding indebtedness .....	500,000
	<hr/>
	6,000,000
	<hr/>

On pages 5 and 6 of my present report can be found tabularized to each county the amount of county tax assessed in each county for county purposes. The councils of Philadelphia assess the entire taxation of that city for all purposes, and hence its return includes the whole taxation of that city. The entire aggregate of that table is \$16,804,830 98. The amount of school tax we ascertain from the school report for 1873, \$8,235,120 41. One of the heaviest taxes in most of the rural counties is the road tax, in regard to which we have not a single return. I estimate this road tax in the State at \$6,000,000. The poor taxes, assessed for the support of the poor, partly on the township system, but chiefly in poor and almshouses, I have estimated at \$2,000,000. Omitting Philadelphia, whose returns we have, I have estimated the city taxes of the other twenty-one cities at \$3,000,000. If I am even approximately correct the entire taxation of the State, as stated, is \$42,039,951 39. This amount, or somewhere near it, has in one form or other to be collected from the property holders of Pennsylvania each year. Nobody likes to be taxed—each one is anxious to have the burden transferred from his own shoulders to his neighbors. But the duty of the Legislature is to have this as equally distributed as human legislation can do it. If we knew the actual cash value of every species of property in the State, and could divide the tax to be raised by this, we could exactly tell what the percentage should be. But an approximation is the best that the wisest legislation can accomplish.

One other consideration comes in here. By the immemorial usage of our State a considerable amount of property is exempted from the payment of taxes of all kinds. This includes the buildings owned by the State, the county, the school boards for public purposes, and also churches, cemeteries and burial grounds, &c. I have been anxious to procure returns to show the amount so exempted. In only a few counties do their tax records show the value of this exempted property. From my correspondence, and the few returns I have received, I assume that property hitherto exempt bears the relation of about one-tenth to the entire taxable property. The design of the new Constitution undoubtedly was to largely reduce this exempted property, what the result will be time must determine.

The assessment laws of our State, since the period of the revolution, have been revised and re-enacted some four or five times with verbal modi-

fications each time ; but the essential feature has not been changed from what is now required, to wit : *A cash valuation of all property upon the assessors' books.* The actual figures upon the tax records have represented however only about one-third, one-fifth, and in some cases only a tenth the cash value. This, too, though the oath administered to assessors has been as strong as the English language can make it. Considerable efforts have been made to correct it, and the actual returns of our latest assessments, (see my report, pages 5 and 8,) show in the whole aggregate that our assessed values have reached about one-half the true value. In three counties, in my judgment, the true value has been reached ; in sixteen others nearly that value, and in the forty-seven remaining counties, every figure from two to six is represented in bringing up the assessed to the true value, and one county is only assessed at one-eighth its true value.

I do not believe that anything like one-half the personal property owned by our citizens is found upon our assessors' books. In Ohio, the value of personal property upon the assessors' books is about one-half that of its real estate ; in New York, about one-fourth, but in our State only about one-tenth. This great injustice has been, to a considerable extent, modified in our State by taxing corporate wealth in another form, to wit : By requiring the officers of the corporations to become the tax collectors, and retain the same from dividends paid by the corporation. In fact, two-thirds of our State tax is now derived from this corporate tax. Several of these corporations have, report says, resolved to appeal from the accounts settled by the Auditor General, and bring before the Supreme Court the constitutionality of our taxing laws in regard to this species of property. But it should be kept in mind that by far the larger amount of corporate wealth is not taxed at all for county, city, school, road or poor taxes. The large State tax they pay is not even a full equivalent for their escape from nearly all local taxation.

In regard to the true value we have two independent valuations, one by the census returns of the United States, and the other by our own assessors. The United States, after giving our State assessments, add their statement of what they call the true value. Their statement of our assessed value in 1870 was \$1,313,236,042. Their estimate of the true valuation was nearly three times that amount, or \$3,808,340,112. They also give us their returns of the annual production of the preceding year as follows :

Agricultural productions.....	\$343,077,991
Manufacturing productions.....	711,894,224
Mining productions.....	76,208,390

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1,131,180,605

Our State assessment for 1874 returns the value of all property on the assessors' books at \$1,770,765,415. My own estimate of the true cash value of this is given by counties in my present report, on pages 7 and 8, and nearly doubles the assessors' value, aggregating \$3,425,325,415. The value of property not upon the assessors' books we have to reach by other means. This includes nine-tenths of our money and active business capital, and nearly all our corporate wealth. In regard to the latter, for example, railroads—while our returns are very full, those within the State are mixed up with those without, so that an exact statement cannot be procured. I was at considerable pains in my last year's report to separate the cost of railroads within the State from the general returns. The report of the late examining committee of the Pennsylvania railroad has gone far to confirm my own estimates, and I reproduce from page 161 of report of 1873 as follows:

Pennsylvania railroad and its branches.....	\$140,837,262
Reading railroad and its branches.....	66,995,110
Railroads in Pennsylvania, independent of Pennsylvania and Reading.....	64,139,168
Canals in our State.....	28,151,219
Street railways.....	8,131,807
Telegraphs.....	5,659,167
	<hr/>
	313,913,735

The banking and moneyed capital of the State I put as follows:

National banks.....	\$53,010,240
State banks.....	8,370,168
Savings banks, (estimated).....	30,000,000
Building and loan associations, (estimated).....	25,000,000
Private banks, and all private discounting of notes and mortgages.....	125,000,000
	<hr/>
	241,380,408

Pennsylvania paid last year, as per insurance bureau returns, \$23,617,953 for fire and life insurance alone.

The capital of these companies cannot be below.....	\$60,000,000
The capital of manufacturing companies cannot be less than.....	60,000,000
	<hr/>
	120,000,000



The active business capital in use by wholesale and retail merchants, liquor dealers, &c., is certainly not below \$200,000,000.

This would give us as follows:

Railroads, canals and telegraphs .....	\$313,913,735
Banks and money dealers.....	241,380,408
Insurance and manufacturing.....	120,000,000
Wholesale and retail merchants and liquor dealers, &c..	200,000,000
True value of real and personal estate on assessors' books,	3,425,325,415
	<hr/>
	4,300,619,558

This, I estimate, as the approximate value of all property in Pennsylvania which the Legislature could hope to reach by her taxing laws, if every citizen was so conscientious as to faithfully report its true cash value. My own estimate is about fifteen per cent. below that of the census returns. If, therefore, these returns and estimates of taxation and value of property are approximately correct, then ten mills or one per cent., if valued at cash rates, would be required to pay the taxation now imposed for all purposes in Pennsylvania.

## THE LUMBER TRADE

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Originally the whole of our State was one vast forest, aptly described in the royal charter to William Penn as *Penn's woods*. A little less than two centuries has so greatly changed the aspect of things that we are now told that twenty years more will leave our productive forests exhausted, and Penn's woods must cease to even afford timber enough to furnish supplies for domestic consumption. It therefore behooves our citizens to examine carefully into our present stock, and how the same can be husbanded for the use of coming generations.

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### NATIONAL CONVENTION OF LUMBERMEN.

The "National Convention of Lumbermen" met at Williamsport, Pennsylvania, June 23, 1874.

The committee on the nomination of permanent officers for the Convention reported as follows:

*For President*—Hon. L. D. Wetmore, of Warren, Pennsylvania

*Vice Presidents*—Hon. J. G. Thorp, of Eau Claire, Wisconsin; Hon. Ezra Rust, of Saginaw, Michigan; C. T. Marston, Hartford, Connecticut.

*Recording Secretaries*—J. R. Smith, Buffalo, New York; H. H. Colquitt, Savannah, Georgia.

*Corresponding Secretary*—J. Henry Symonds, Boston, Massachusetts.

The report was accepted, and the gentlemen nominated were unanimously elected.

Judge L. D. Wetmore then took the chair, and made an able and comprehensive address.

Hon. W. H. Armstrong then made an address of welcome in behalf of the Williamsport lumbermen.

The committee on the order of business for the Convention presented their report, the first clause of which was adopted as follows:

Your committee would respectfully recommend that a National Association of Lumbermen be now formed, and that a committee of five be appointed on articles of association.

The committee was subsequently announced, as follows:

W. H. Armstrong, of Pennsylvania, Chairman; H. Savidge, Michigan; J. G. Thorp, Wisconsin; S. T. Drew, Vermont; W. H. Gleason, Florida.

The second recommendation of the committee, that this Convention enter its protest against the proposed treaty of reciprocity with Canada was read.

This recommendation pending, the following resolution was presented by Hon. W. H. Armstrong, of Pennsylvania :

*Resolved*, That in the judgment of this Convention the proposed treaty of reciprocity with Canada would be injurious to the industrial interests of the whole country, and should not be ratified ; that its effect upon the business which we especially represent would be most disastrous, and would compel a large reduction in wages, in order to compete with the cheaper labor of Canada, or the suspension of business in many sections of the country where it is now extensively carried on.

This resolution elicited a very earnest discussion in which Messrs. Armstrong, of Pennsylvania, Rust, of Michigan, Drew, of Vermont, Johnson, of Maryland, Colquitt, of Georgia, Bartram, of Michigan, Blanchard, of Pennsylvania, and Gleason, of Florida, participated.

The committee on unfinished topics in the report on order of business reported the following resolutions :

*Resolved*. That two committees, five each, one for white pine, and one for yellow, from the different manufacturing points, be appointed by the chairman to recommend rules for the uniform inspection, measurement and classification of lumber, to report at the next meeting of this association.

*Resolved*, That a committee of seven be appointed to procure statistics covering the amount of white pine and yellow, and other valuable timber standing in the United States and Canada, and where located ; also, the production, distribution and consumption of the same, and such other statistical information as would give the most accurate idea obtainable on all matters of interest to the lumber trade.

The committees, ordered in these resolutions, were announced by the chair as follows :

*Committee on Inspection of White Pine*—P. B. Merrill, Williamsport, Pennsylvania, Chairman ; T. M. Avery, Chicago, Illinois ; John S. Estabrook, East Saginaw, Michigan ; L. G. Mason, Muskegon, Michigan ; Thad. C. Pound, Chippewa Falls, Wisconsin.

*Committee on Inspection of Yellow Pine*—H. H. Colquitt, Savannah, Georgia, Chairman ; W. H. Northrop, Wilmington, North Carolina ; J. D. Gardner, Pensacola, Florida ; W. Denny, Pascagoula, Mississippi ; C. S. Langdon, Darien, Georgia.

*Committee on Statistics*—Ezra Rust, Saginaw City, Michigan, Chairman ; E. W. Durant, Stillwater, Minnesota ; J. J. Dale, Savannah, Georgia ; A. A. Sumner, Albany, New York ; George W. Lentz, Williamsport, Pennsylvania ; A. C. Calkins, Chicago, Illinois ; Charles J. L. Meyer, Fond du Lac, Wisconsin.

R. M. Forsman, of Williamsport, Pennsylvania, offered the following resolution :



*Resolved*, That this Convention do hereby recommend to all persons engaged in the lumber trade the importance of forming local organizations.

The following amendment was offered by W. H. H. Bartram, of Michigan :

And that local organizations be requested to communicate to the National association the basis of their organization, and the names of their officers, so that official communication may be maintained.

The amendment was accepted, and the resolution was adopted.

E. M. Blanchard, of Pennsylvania, offered the following resolution, which was adopted :

*Resolved*, That a committee of five be appointed to devise means for regulating the supply of lumber in accordance with the demand.

The committee was appointed as follows :

G. W. Lentz, Williamsport, Pennsylvania ; H. M. Prentiss, Bangor, Maine ; S. H. Webster, East Saginaw, Michigan ; S. B. Townsend, Ionia, Michigan ; A. C. Hopkins, Lock Haven, Pennsylvania.

W. H. H. Bartram offered the following resolution, which was referred to the executive committee :

*Resolved*, That a committee of three from Michigan, consisting of T. W. Palmer, John S. Estabrook and W. M. Ferry, be appointed to collect statistics showing the result of the so-called reciprocity treaty on the lumber trade of Michigan and adjacent States, said committee to raise the funds for defraying the necessary expenses of such work. The information to be collected and presented to the Senators from that State prior to the next session of the Senate, and a copy of the same to be placed on file with the Secretary of the association, and that a like committee with similar instructions be appointed from each of the States of Pennsylvania, New York and Wisconsin, and that said committee of twelve be instructed to appear before the committee to whom the treaty is referred, and that they be requested to call to their assistance lumbermen from all parts of the country, to the end that the true interests of the lumber trade may be fully understood by the Senate before a decision is reached on this question.

The committee on permanent organization made the following report, which was adopted :

*President*—L. D. Wetmore, Warren, Pennsylvania.

*Vice President*—J. G. Thorp, Eau Claire, Wisconsin.

*Recording Secretary*—F. E. Embick, Williamsport, Pennsylvania.

*Corresponding Secretary*—J. Henry Symonds, Boston, Massachusetts.

*Executive Committee*—W. H. Armstrong, Edgar Munson, Williamsport, Pennsylvania ; R. K. Hawley, Baltimore ; James R. Smith, Buffalo ; T. L. Kinsey, Savannah, Georgia ; George E. Scott, Pensacola, Florida ; C. T.

Marston, Hartford, Connecticut; H. M. Prentiss, Bangor, Maine; N. B. Bradley, Bay City, Michigan; Thad. C. Pound, Chippewa Falls, Wisconsin; William Knight, St. Paul, Minnesota.

The report of the committee was adopted.

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### THE NATIONAL ASSOCIATION.

We extract the following article from *The Timber Trades Journal*, of London, the leading paper, published in England in the interest of the lumber trade. It will be seen that it sets forth very effectively the objects and advantages of the association.

On Tuesday last, lumbermen from various parts of the United States assembled in Convention at Williamsport, Pennsylvania, for the purpose of establishing a National association, which would represent the interests of their trade in that country. The experiment is unquestionably a bold one, and if successful there can be little doubt that the projected society will exercise a powerful influence over the future of the lumber industry on the American continent. The astonishing expansion and immense proportions which the timber trade of the States has so quickly attained, render it in the highest degree advisable that a properly constituted body with a controlling power should direct its further development, endeavor to remove the obstacles that impede its progress, and harmonize interests that may be at variance. At a time when apprehensions more or less well-founded are beginning to be entertained that the timber resources of the country are decreasing too rapidly, it is also peculiarly appropriate that those most deeply affected by the question should meet and investigate it thoroughly. The great advantages that other industries have derived from the combined action of those engaged in them, is the best guarantee that the lumbermen of North America will most effectually secure the present and future prosperity of their trade by a sincere and hearty union. Whether the spirited projector of the movement, Mr. J. Henry Symonds, of Boston, should witness the immediate adoption of his well devised plan or not, matters little, as its ultimate success is inevitable, it being the only true basis upon which enduring trade can flourish.

The exact programme to be carried out at the Convention has not, so far as our information goes, been published; indeed it would have been difficult to have pre-arranged any settled course of action, seeing that the delegates represent so many districts wide apart, and that it would, therefore, be difficult to foresee what subjects would be considered of most general importance. One of the most pressing requirements of the trade in the Uni-

ted States, however, seems to be a uniform survey of lumber. Complaints are rife in many localities that the measurement of lumber is carried on in a manner detrimental to the interests of the dealer, and we may expect to see this subject of common interest fully discussed. Another great want of the trade is a proper classification of wood. At present it is impossible to tell from the quotations of prices what the quality of the lumber is, unless a person be specially acquainted with that particular market, and this, in a country where there are so many great centres of produce and of sales, renders it extremely difficult to ascertain the actual value of certain classes of goods. In order to give effect to the latter reform, it is only necessary that the delegates should come to a decision among themselves, as there can be no difficulty in classing the various qualities of timber grown in each part of the country. The question of transport is already assuming a serious aspect in the States, owing to the action of some of the leading lines of railways which have changed the rates of freight rather arbitrarily. Railway companies may, however, change their front when they have to deal with a united trade instead of with individuals. These are, we believe, some of the most prominent questions under consideration at the present moment by the meeting in Williamsport. We hope, for the sake of the great interests at stake, that unanimity will prevail, and that no sectional differences will be permitted to mar this judicious attempt to nationalize the lumber trade of the United States. We hope, moreover, that the delegates will not separate without establishing some central and permanent organization which will watch over the interests of the trade, and draw closer the bonds of union which ought to exist among those who have a common object in view.

#### THE TIMBER SUPPLY.

We extract the following communication from the *Montreal Gazette* of July 15th :

*To the Editor of the Gazette :*

SIR :—I find in your issue of Saturday an article copied from the *St. John, New Brunswick, Telegraph*, on the subject of the timber supply, from which it appears that that province which has for so long a time furnished a large amount of the consumption in Great Britain and the United States is about used up, the *St. Croix* being now the only source of supply, and it appears from that paper that the reason of its holding out so long is to be attributed to a large amount of the timber territory, drained by that stream, being in the hands of private parties, who, however, to meet the demand, have been recklessly sacrificing their property, reducing year by year the dimensions



of the timber they get out, while one-third of the whole product is now of the very inferior and almost valueless description called hemlock. The pine is all used up, and it is evident but a few years will serve to throw them out of competition with the province of Quebec in the matter of spruce.

Since I brought the timber question to the notice of the American public in the communications which have been published in the *Gazette* and the Boston *Lumber Trade*, I notice the question has been pretty extensively discussed by the American press, and, taking the alarm, a memorial was sent by the President to Congress, strongly urging the necessity of passing an act providing for the preservation of their timber, and giving bonuses for tree planting—a measure which should have been adopted before the timber lands were all grabbed up by railway corporations, speculators, &c.

I showed in those communications what has not since been successfully disputed in the discussion of the question, that the United States would use up all the pine timber they have east of the Rocky mountains in from ten to twelve years, and that all our pine and spruce would not give them a full supply of their annual consumption for three years if called on to do so. And now, as serving further to draw attention to the question, and in hope that our lumbermen will take it into serious consideration, and realize the necessity and value of curtailing their operations, I would ask them to reflect on the position the United States would be placed in, and what the price of lumber must be in Canada, when it will require one-third more than the tonnage of all the sailing vessels of Europe and America combined to freight the present consumption of pine alone, and double the amount of tonnage of all Europe and America for the transportation of their present consumption of commercial woods of all kinds from the Pacific coast, if they are to be found in that quarter. Is it not evident from this view of the question which is based on their own Congressional returns of the consumption, that the commercial woods of Canada will in a few years reach a value immensely beyond that of any other description of property we possess? And is it not utter folly for the owners of timber property to be continually, as it would appear, running a race with each other, to see who will soonest come to the end of their supplies, wasting their time, working hard, and sacrificing a material so valuable and indispensable without any earthly advantage resulting to themselves or the home community, when half the labor and capital expended would enrich them all, and doubly prolong the time of exhaustion of their stock in trade, which no amount of capital and labor could for generations replace? So far as regards that invaluable wood, the white pine, every tree of which will be worth as much within the next decade as black walnut is to-day—the Ottawa lumbermen have the control in their own hands, and are able to govern the markets

both of Britain and the middle and eastern States of America to their own advantage, if they will make the effort. Let them curtail the supplies by one-half, and they will secure a return of ten dollars for one of profit they now make, and those who hold timber and are able to preserve it from the axe will yet do better.

The question of timber exhaustion is met by some with the argument that iron will take its place to an extent sufficient to keep down its prices, but facts are against this view of the question. Let any one travel through Great Britain, and he will neither see any room for improvement, or improvements to any appreciable extent going on; and yet that old and long finished up country consumes annually five millions of loads, or over twice as much as Canada consumes and transports to all countries—paying, at the same time, double what it is sold at here, notwithstanding her abundance of coal, iron, and cheap labor skilled and unskilled, and she will continue to use timber as long as it is to be had, no matter at what cost; so far as regards the United States, it must reach four times its present price before its place is supplied to any great extent by iron or any other product, for it is to them a material absolutely indispensable.

Sweden, which has hitherto been the great timber supplying country of the north of Europe, finding the drain upon her resources so exhausting, has also taken the alarm, and within a few weeks back has passed an act in effect prohibiting the cutting of timber of smaller dimensions than ten inches in diameter, on the public domain and all private lands, annulling at the same time all contracts made for timber on account of private parties prior to the passing of the act. As a large amount of their production consists in deals of from five to seven inches wide, this supply will be cut off, and the cost will be much enhanced in furnishing a large description which can only now be found at great distances from the floating streams. It takes a hundred and twenty-five years to grow pine trees ten inches in diameter in that country.

Russia reserves all the timber on the banks of her streams for four miles back, as a breakwater and reservoir to preserve the country from inundations; yet here her greatest wealth of timber is to be found; but the home and foreign supply must be drawn from beyond that distance. A Russian timber firm in London that owns the timber on a river and its tributaries in that country which empties into the White sea, as large as the Ottawa, informed me that they are now reduced to supplying themselves with timber material of from six to ten inches in diameter, and that Russia has but little commercial timber available for the English market. Parties in Britain now look upon the north of Europe as pretty well "played out;" but they are quite sure Canada is yet one unbroken forest. One influential journal, the *London Standard*, after ransacking the European timber sections and

finding the supplies all but exhausted, turns its attention to Canada, and assures the British public that there need be no apprehension of a timber famine, as we "have a supply for the most exacting populations of the earth for centuries;" while we ourselves have calculated our supply as not sufficient for the United States alone for a period of three years. Another journal, the *Building News* of the same city, equally well informed on the subject, sets down our timber territory at "nine hundred millions of acres," or twelve "times the area of Great Britain, all told," and what is puzzling to them is that the supply is so enormous, and yet the material so dear in their market." This is the sort of information furnished the people of Great Britain, who are so deeply interested in the question of the timber supply, by some of their leading journals; but they will, however, wake up to its true position when they find the United States will be forced, at higher prices than are now paid in England, to secure all the timber we have, in order to supply the middle and Eastern States, which in five years' time, will be totally stripped of their pine, and pretty well through with their spruce timber, and will also be forced to compete with them for supplies in the north of Europe, and in India and Japan, which are pointed to by some English writers somewhat better posted on the subject, as sources from which in a few years hence supplies must be drawn.

I understand a meeting of those engaged in the lumber and timber trade in the provinces of Ontario and Quebec is to take place some time in the fall, at Ottawa, to try and arrive at some means of curtailing the supplies—a very wise measure.

Yours truly,

J. LITTLE.

MONTREAL, June 13, 1874.



## ANNUAL LUMBER REPORT.

ESTIMATE OF LUMBER IN THE WILLIAMSPORT MARKET, JANUARY 1, 1873, AS FURNISHED OFFICIALLY TO THE WEST BRANCH LUMBERMAN'S EXCHANGE.

YARDS.	PINE.	HEMLOCK.	LATH.	PICKETS.
E. B. England & Co .....	3,025,000			25,000
Beaver Mills and Lumber Co .....	9,440,000		1,000,000	
Tabor & Goodrich .....	1,000,000	2,800,000	300,000	
Geo. W. Quinn .....	2,250,000		800,000	120,000
TenEyck, Emery & Co .....	5,500,000		2,700,000	
Barrows, Bowman & Co .....	5,000,000		1,630,000	167,000
Filbert, Otto & Co .....	5,000,000		2,000,000	150,000
Thompson, Harper & Co .....	5,618,480	338,300	1,582,700	47,260
Tinsman & Wolverton .....	7,127,500		757,000	
John Dubois .....	3,226,000	715,000	1,387,000	
P. G. Fessler & Co .....	4,881,661		1,380,000	
Starkweather & Munson .....	4,500,000		2,000,000	
Finley, Young & Co .....	5,700,000		2,700,000	25,000
Brown, Early & Co .....	8,703,000		1,332,800	283,060
Foresman, Merriman & Gibson .....	4,000,000		590,000	500,000
Slonaker, Howard & Co .....	2,750,000	125,000	1,000,000	100,000
White, Lentz & White .....	6,494,000		2,430,000	197,800
F. Coleman .....	6,610,205		1,994,200	148,210
Canfield & Colton .....	4,500,000	300,000	1,500,000	
Lutscher & Moore .....		2,000,000	50,000	400,000
B. H. Taylor & Son .....	4,000,000	550,000		
P. Herdic & Co .....	7,000,000		2,034,600	
Reading, Fisher & Co .....	4,397,000		1,130,100	30,650
Krouse, Herdic & Co .....	5,327,000	1,082,000	2,892,000	
Eder, Housel & Deemer .....	2,831,259			
Dodge, James & Stokes, } Henry James & Co. }	19,068,802	897,140	6,776,300	79,300
Total, Williamsport .....	137,949,907	8,807,440	39,966,700	2,273,280
Lock Haven .....	32,638,741	1,930,000	5,163,000	1,503,000
Port Deposit .....	4,000,000			
Baltimore .....	2,000,000			
Philadelphia .....	10,818,990			
Total, January 1, 1873 .....	187,407,638	10,737,440	45,129,700	3,776,280

## COMPARATIVE STATEMENT.—STOCK ON HAND, JAN. 1, 1872.

	PINE.	HEMLOCK.	LATH.	PICKETS.
Williamsport .....	50,550,603	2,832,500	12,687,600	1,687,815
Lock Haven .....	7,179,000		710,000	410,000
Port Deposit .....	5,250,000			
Baltimore .....	2,250,000			
Philadelphia .....	13,486,280			472,890
Total, January 1, 1872 .....	78,715,883	2,832,500	13,397,600	2,570,705
Do., January 1, 1873 .....	187,407,638	10,737,440	45,129,700	3,776,280
Difference .....	108,691,755	7,904,940	31,732,100	1,205,575

## STOCK ON HAND, JANUARY 1, 1871.

	PINE.	HEMLOCK.	LATH.	PICKETS.
Williamsport.....	122,505,694	5,737,000	33,604,800	2,646,150
Lock Haven.....	22,312,000		2,289,000	720,000
Port Deposit.....	950,000			
Baltimore.....	3,000,000			
Philadelphia.....	10,249,971			245,133
Total, January 1, 1871.....	159,017,665	5,737,000	35,893,800	3,611,283
Do... January 1, 1873.....	187,407,638	10,737,440	45,129,700	3,776,280
Difference.....	28,389,973	5,000,440	9,235,909	164,997

## STOCK ON HAND, JANUARY 1, 1870.

	PINE.	HEMLOCK.	LATH.	PICKETS.
Williamsport.....	134,166,157	6,098,000	27,627,300	1,653,065
Lock Haven.....	58,500,000			
Port Deposit.....	1,500,000			
Baltimore.....	3,500,000			
Philadelphia.....	11,000,000			
Total, January 1, 1870.....	208,666,157	6,098,000	27,627,300	1,653,065
Do... January 1, 1873.....	187,407,638	10,737,440	45,129,700	3,776,280
Difference.....	21,258,519	4,639,440	17,502,400	2,123,215

The above is a correct statement of the amount of Susquehanna lumber, lath and pickets in first hands, in the above named markets, on the first day of January, 1873. To the horse disease, which swept over the whole country during the past season, and to the strikes and riots of the workingmen in various portions of the State during the same time, is attributable the decrease of the retail demand supplied from this and the Lock Haven markets. The close of the old and the beginning of the new year, however, brought a larger demand for lumber than usual; shipments have been quite brisk, and the lumbermen may congratulate themselves that, notwithstanding the vicissitudes and interruptions to business operations the year just closed has been a very gratifying one.

## WILLIAMSPORT LUMBER SHIPMENTS.

Statement showing the shipments of lumber by canal and railroad, from June 30, 1873, with comparative statements of increase and decrease.

The shipments for the year 1873, as compared with 1872, show a corresponding increase, and we give the shipments for each month for the two years. Our readers can then form a correct estimate of the shipments from this point.

	CANAL.	CATAWISSA	P. AND E.
1872.	Feet...	Feet...	Feet...
January.....		2,631,640	1,770,720
February.....		3,692,432	4,443,600
March.....		4,580,840	5,282,920
April.....	1,977,000	5,273,000	3,691,920
May.....	12,184,000	6,124,160	4,541,520
June.....	10,297,000	7,849,542	4,324,861
	24,458,000	30,151,614	24,055,541

	CANAL.	CATAWISSA	P. AND E.
1873.	Feet...	Feet...	Feet...
January.....		4,620,500	2,576,640
February.....		6,262,000	4,008,960
March.....		9,066,500	7,109,360
April.....		16,695,000	9,970,480
May.....	12,303,829	10,526,000	9,479,860
June.....	9,481,000	11,280,500	7,567,200
Total for 1873.....	21,784,829	58,450,500	40,712,500
Total for 1872.....	24,458,000	30,151,614	24,055,541
Increase and decrease.....	2,673,171	28,298,886	16,656,959

The canal shows a decrease up to July 1, of 2,673,171 feet; the Catawissa a gain of 28,298,886, and the Philadelphia and Erie a gain of 16,656,958 feet, making a total increase over the year 1872, up to July 1, of 42,283,674 feet.

The total shipments up to July 1, 1872, were 78,665,155 feet; up to July 1, 1873, 120,948,829 feet.

WILLIAMSPORT, PA., July 18, 1873.

EDGAR MUNSON, Esq.,

*President West Branch Lumberman's Exchange:*

DEAR SIR:—The committee appointed by you under a resolution of the Exchange, to compile statistics of the shipments of lumber for 1873 to the



present time, and a statement of logs rafted out of the Susquehanna and West Branch booms ; also comparative statements for the year 1872, have the pleasure to present the following report :

Comparative statement of lumber shipments from Williamsport and Lock Haven, from January 1, 1873, to July 8, 1873, and during the corresponding period in 1872.

## 1873.

	Feet.	Feet.
Shipped over the West Branch Canal.....	41,014,029	
Shipped over the Catawissa railroad.....	63,980,000	
Shipped over the P. & E. R. R.....	54,890,000	
Total amounts of shipments in 1873 .....	—————	159,884,029

## 1872.

From January 1, 1872, to July 8, 1872, the shipments were as follows :

Shipments over the West Branch canal.....	40,793,007	
Shipments over the Catawissa railroad.....	30,151,614	
Shipments over the P. & E. R. R.....	25,249,541	
Total amount of shipments in 1872 .....	—————	96,194,162

Increased shipments in 1873.....	63,689,867
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## STOCK ON HAND JANUARY 1, 1873.

Amount of manufactured lumber on hand in Williamsport and Lock Haven, January 1, 1873, as furnished officially to the Lumberman's Exchange .....	170,588,648
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Logs rafted out of the Williamsport and Lock Haven booms from January 1, 1873, to July 8, 1873, as follows :

	Feet.	Feet.
Out of Susquehanna boom, 433,423 logs, scaling,	86,698,969	
Out of West Branch boom, 82,764 logs, scaling,	15,169,250	
Total amount of logs rafted out of both booms in 1873.....	—————	101,868,219

In the year 1872, during the same time, logs were rafted out as follows :

Out of Susquehanna boom, 519,732 logs, scaling,	101,143,953	
Out of West Branch boom, 105,135 logs, scaling,	20,050,964	
Total amount of logs rafted out of both booms in 1872 .....	—————	121,194,917

A decrease in 1873 of.....	19,326,698
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By the foregoing statement it will be observed that the increased shipments for the six months ending July 8, 1873, have been carried as follows :

	Feet.
By the Catawissa railroad .....	33,828,386
By the P. & E. R. R. ....	29,640,459
By the West Branch canal.....	221,022

All which is respectfully submitted,

P. B. MERRILL,  
F. E. EMBICK, *Sec'y,*  
*Committee.*

SUSQUEHANNA BOOM.

OFFICE GAZETTE AND BULLETIN, )  
*Williamsport, August 5, 1873.* )

As several errors have crept into our report of the amount of logs rafted out of the booms from time to time, we publish to-day a review of all the bills of logs and the dates, with the corrections. The table will be found valuable for reference :

No. bills.	FOR WEEK ENDING.	No. Logs.	No. Feet.
1....	Friday, May 2, 1873.....	45,850	9,000,842
2....	Friday, May 16, 1873.....	39,458	7,800,944
3....	Friday, May 23, 1873.....	51,187	10,126,099
4....	Friday, May 30, 1873.....	65,989	13,344,270
5....	Friday, June 6, 1873.....	63,435	12,902,710
6....	Friday, June 13, 1873.....	53,968	10,771,121
7....	Friday, June 20, 1873.....	51,942	10,395,183
8....	Friday, June 27, 1873.....	28,318	5,571,617
9....	Friday, July 4, 1873.....	49,654	9,916,647
10....	Friday, July 11, 1873.....	58,368	11,039,933
11....	Friday, July 18, 1873.....	86,012	17,246,293
12....	Friday, July 25, 1873.....	81,941	17,016,740
13....	Friday, Aug. 1, 1873.....	76,980	16,367,277
		753,122	151,499,676
LOWER BOOM.			
1.....	Friday, May 16, 1873.....	5,276	1,045,748
2.....	Friday, May 23, 1873.....	1,986	395,529
3.....	Friday, May 30, 1873.....	5,221	1,055,898
4.....	Friday, June 6, 1873.....	8,635	1,815,508
5.....	Friday, June 13, 1873.....	8,149	1,724,534
6.....	Friday, June 20, 1873.....	4,318	813,012
7.....	Friday, July 11, 1873.....	14,829	3,152,771
8.....	Friday, July 18, 1873.....	5,414	1,159,442
9.....	Friday, July 25, 1873.....	4,626	1,029,521
		58,454	12,191,963

RECAPITULATION.

Rafted out of upper boom.....	151,499,676
Rafted out of lower boom.....	12,191,963
Total.....	163,691,639

The Muncy boom is not counted in the operations at Williamsport.

## MUNCY BOOM.

No. bills.	FOR WEEK ENDING.	No. Logs. No. Feet.	
1.....	Friday, June 13, 1873.....	5,896	1,162,027
		2,115	395,032
		8,011	1,557,059

At this time last year the amount rafted out of the boom was as follows : Logs, 560,914 ; feet, board measure, 109,839,974. Thus far the operations of 1873 show an increase over last year of 250,662 logs and 53,851,665 feet.

## WILLIAMSPORT LUMBER SHIPMENTS.

The following comparative statements furnish a general exhibit of the lumber trade from August, 1873, to July, 1874 :

August 6, 1873—The total shipment for 1872-3 when compared, show an increase up to this time of 48,759,642 feet.

August 21, 1873—The rains and freshets of the past week have operated against shipments. The river reached a height of thirteen and one half feet above low water, and it is estimated between six and eight million feet logs passed below. Such an event was expected, as the number of logs outside the boom was supposed to reach near twelve million feet. This loss falls heavily upon three or four of our lumbermen. We understand but few logs were caught either at Muncy or Northumberland, the booms at those points failing to hold the logs. The loss will probably be two-thirds the amount escaping.

September 9, 1873—As compared with the week ending September 10, 1872, there is an increase of 402,237 feet, the shipments, being as follows: Catawissa, 1,905,200 feet ; Philadelphia and Erie, 1,011,560 feet, and the canal 2,339,003 feet.

Lock Haven shipped from August 30 to September 6, 1873, 33 cars, containing 297,240 feet, a decrease of 19,240 feet as compared with the week ending August 30 ; from points east of Renovo there were 54 cars, containing 463,440 feet, being an increase of 134,040 feet ; from stations on the Northern Central there were 43 cars, containing 388,400 feet, an increase of 241,760 feet, making the total shipments over the Philadelphia and Erie road, from all points, for the week, 2,801,000 ; over the Catawissa, 2,479,080 ; by canal, 1,527,000 ; a grand total of 6,807,080 feet, and a decrease of 1,115,260 as compared with last week.



October 8, 1873—The shipments from Williamsport for the week ending October 4, are 314,680 feet in excess of the week previous, as follows: Catawissa gains 100,640 feet, the canal 671,000 feet, while the Philadelphia and Erie falls off 456,960 feet.

For the week ending October 8, 1872, the Catawissa shipped 1,565,400 feet, the Philadelphia and Erie 685,400 feet, and the canal 2,053,000 feet—a total of 4,303,800 feet. The week ending October 4, 1873, shows the following: Catawissa 2,523,720 feet, Philadelphia and Erie 1,327,800 feet, and the canal 2,540,000 feet—a total of 6,391,520 feet, and a gain over last year's corresponding week of 2,087,700 feet.

The total shipments over the Philadelphia and Erie road, including Williamsport, 2,159,040 feet; over the Catawissa, 2,523,720 feet—a total by rail of 4,682,760 feet, and a decrease as compared with last week of 452,120 feet.

For the month of September, 1872, the following were the shipments: Catawissa 7,259,400 feet, Philadelphia and Erie 4,455,820 feet, and canal 9,862,763 feet—a total for the month of 21,577,983 feet. In September, 1873, the total shipments from Williamsport were 26,565,000 feet, an increase over 1872 of 4,987,017 feet, as follows: Catawissa 11,754,680 feet, a gain of 4,495,280 feet; Philadelphia and Erie 7,048,320 feet, a gain of 2,592,500 feet; canal 7,762,000 feet, a decrease of 2,060,763 feet.

October 20—The shipments of lumber from Williamsport for the week ending October 11, 1873, show a decrease of 1,742,320 feet, as compared with the previous week, there being a decline over the Catawissa of 534,760 feet; over the Philadelphia and Erie of 189,560 feet, and by canal of 1,018,000 feet.

For the week ending October 15, 1872, the Catawissa shipped 1,539,800 feet; the Philadelphia and Erie 653,320 feet, and the canal 2,639,473 feet—a total of 4,832,593 feet. For the week ending October 11, 1873, the Catawissa shipped 1,988,960 feet; the Philadelphia and Erie 1,138,240 feet, and the canal 1,522,000—a total of 4,649,200 feet, and a loss, when compared with the corresponding week in 1872, of 183,393 feet.

The total shipments of lumber over the Philadelphia and Erie road, from all points, passing through Williamsport, and weighing at this point, is 1,929,760 feet, and over the Catawissa 1,988,960 feet—a total of 3,918,720 feet, and as compared with last week a decrease of 764,040 feet.

The perceptible decline in shipments the past two weeks clearly shows the effect the financial crisis has had upon our lumber interests, and yet, when compared with 1872, we have shipped 55,138,723 feet over last year's business up to the same date, and will probably reach the business of 1871, when the shipments were 250,000,000 feet.

October 30—Shipments from this city and points above this still continue to decline. A few of our mill's are cutting down" in the number of employees, and the outlook for the winter is not the most pleasant to contemplate.

For the week ending October 25, 1873, the lumber shipments from Williamsport were 3,992,560 feet, showing a decrease when compared with the previous week, of 820,540 feet, as follows: The Catawissa shows a decline of 428,340 feet, the Philadelphia and Erie, 274,700 feet, and the canal, 117,500 feet,

For the week ending October 29, 1872, the shipments from Williamsport were 4,584,880 feet; for the week ending October 25, 1873, the shipments are a total of 3,992,560 feet, and a loss, when compared with the corresponding week in 1872, of 592,320 feet.

The shipments of lumber passing through Williamsport for the week ending October 25, 1873, are a grand total of 4,601,640 feet.

Nov. 28—A few of our mills are running, but generally they are closed up until the spring opening. Shipments by canal have virtually closed, no boats having left this port since the 22d, although a few are "breaking" their way home to winter quarters. There will be some addition to the canal shipments from the outlet lock at Loyalsock, from August 1, to date.

For the week ending November 22, 1873, the shipments from Williamsport were 3,115,160 feet, a decrease of 217,840 feet, as compared with the previous week, as follows: The Catawissa gains 143,450 feet, while the Philadelphia and Erie shows a decrease of 123,320 feet, and the canal of 238,000 feet.

For the week ending November 23, 1872, the shipments from Williamsport were—a total of 5,818,440 feet. For the week ending November 22, 1873—a total of 3,115,160 feet—and a decrease when compared with the corresponding week in 1872 of 2,703,280 feet.

The total shipments of lumber passing through Williamsport for the week ending November 22, 1873, were 3,585,480 feet, showing a decrease of 186,440 feet as compared with last week.

Dec. 6—With the canal closed, the mills shut down, and the financial crisis upon us, we can only look for limited shipments until the spring trade opens.

The shipments over the Catawissa railroad from January 1, 1872, to December 1, 1872, were 67,818,342 feet; from January 1, 1873, to December 1, 1873, 101,737,920 feet; showing an increase thus far over the year 1872, of 33,919,578 feet.

From January 1, 1872, to December 1, 1872, the Philadelphia and Erie railroad shipped from Williamsport 44,729,053 feet, and for the same period in 1872, 66,341,320 feet, an increase of 21,612,267 feet.

The canal shipped in 1872, 72,386,658 feet, while in 1873, the shipments are 66,124,329 feet—showing a decrease for the year of 6,262,329 feet.

For the week ending November 29, 1873, the shipments from Williamsport were 2,023,960 feet, a decrease of 1,091,200 feet as compared with last week. This decrease is largely owing to the closing of the canal.

For the week ending November 30, 1872, the shipments from Williamsport were—a total of 2,575,640 feet. For the week ending November 29, 1873—a total of 2,023,960 feet—and a decrease as compared with the corresponding week in 1872, of 551,680 feet.

The total lumber shipments passing through Williamsport, for the week ending November 29, 1873, were as follows: Over the Catawissa railroad, 1,236,720; over the Philadelphia and Erie, 1,270,480 feet—a total of 2,507,200 feet, and a decrease of 1,078,280 feet, as compared with last week.

Jan. 15—Thus far the season has been very unfavorable to our lumbermen, and log jobbers have been laboring under great disadvantages. At this time it is difficult to give anything like an approximation to the amount of logs that will be cut and floated to this market—much depends upon “the weather” from this until the spring opening: As our lumbermen resolved to “put in” only about two-thirds of last year’s stock, it is fair to presume that 200,000,000 to 250,000,000 feet will cover that item.

Feb. 5—Shipments from this point continue largely in excess of previous years at this season. In January, 1873, there were 519 cars forwarded over the Catawissa railroad, containing 4,620,500 feet; and over the Philadelphia and Erie road 277 cars were forwarded, containing 2,576,740 feet—a total from Williamsport of 796 cars and 7,197,240 feet of lumber.

In 1874, the shipments for the month of January, were 12,430,400 feet—an increase over 1873 of 5,233,160 feet.

For the week ending January 31, 1874, Williamsport shipped a total of 3,672,680 feet. In 1873, for the week ending February 1, a total of 1,861,940 feet, and 1,810,740 feet less than for the corresponding week in 1874.

Lock Haven shipped 46 cars up to January 24, 1874, containing 441,240 feet; and for the week ending January 31, 1874, 15 cars, containing 146,040 feet—a total for the year of 61 cars and 587,280 feet of lumber.

From points east of Renova there have been 50 cars forwarded in January, 1874, containing 465,480 feet of lumber; of these there were 11 cars, containing 103,240 feet, for the week ending January 31, 1874.

April 2—The past week has been one of more than usual activity in the lumber trade.

The canal first opened for the passage of light boats on the 23d and on the 25th the first lumber shipments were made.



During the week ending on the 28th ult., the lumber shipments were brisker than the previous week, 6,748,039 feet having gone forward, which is an increase of 750,121 feet. This however, was caused by the opening of the canal, as the shipments by rail show a falling off, compared with the previous week, of 29,700 feet.

On the 25th, 81 cars were shipped by the Philadelphia and Erie railroad from Williamsport, which is the heaviest day's work yet done here this season. They carried 507,240 feet.

April 9—Owing to the low stage of the river during the past week there has been no rafting, and the log drives remain "hung up" in the tributary streams, much to the disadvantage of the lumbermen. There is probably less than thirty millions in the boom, and a rise in the river is anxiously looked for to bring down a sufficiency of logs to enable the manufacturers to run their mills on full time. More than half of the mills are now in operation, working up the stock that remained in their pools over winter.

Last year the first shipments by canal were made on the 2d of May, nearly one month later than this year, and the traffic of that week footed up 2,075,000 feet.

May 7—The shipments of lumber from Williamsport for the week closing on the second of May show a total of 8,583,952 feet, an increase of 3,006,906 feet over the previous week

The mills are nearly all running, and there is an abundant stock in the boom.

June 19—There is a slight improvement in the lumber market since our last report, the shipments for the week closing on the 13th showing a total of 6,290,063 feet, an increase of 1,383,629 feet over the previous week.

July 9—For the week closing on the 4th of July the shipments of lumber from Williamsport, by rail and canal, foot up a total of 4,903,966, an increase of 211,135 feet over the week ending on the 27th of June.

The total shipments during the months of May and June compare as follows :

Total shipments in May.....	26,123,655
Total shipments in June.....	23,144,021
Decrease in June.....	2,979,634

## ANNUAL LUMBER REPORT.

ESTIMATE OF LUMBER IN THE WILLIAMSPORT MARKET, JANUARY 1, 1874, AS FURNISHED OFFICIALLY TO THE WEST BRANCH LUMBERMAN'S EXCHANGE.

YARDS.	PINE.	HEMLOCK.	LATH.	PICKETS.
Eder, Housel & Deemer.....	6,647,602	265,800	1,050,000	40,000
TenEyck, Emery & Co.....	9,200,000		1,400,000	
Reading, Fisher & Co.....	7,000,084		1,200,000	2,800
P. B. Merrill & Co.....	8,231,442		2,000,000	
Taber & Goodrich.....	1,100,000	3,800,000	870,000	
Barrows, Bowman & Co.....	8,872,835		1,700,000	124,000
G. W. Quinn.....	3,100,000		480,000	120,000
Filbert, Otto & Co.....	7,000,000		1,175,000	150,000
Canfield & Colton.....	5,790,000	1,375,000	800,000	
Thompson, Harper & Co.....	8,936,282	1,244,991	3,528,300	179,500
B. H. Taylor & Son.....	7,000,000	1,000,000	2,500,000	150,000
F. Coleman.....	2,275,274		4,204,900	146,200
Beaver Mills and Lumber Company,	19,411,726		3,829,600	190,000
John DuBois.....	10,000,000	2,250,000	1,300,000	
Brown, Earley & Co.....	11,117,286		2,131,000	371,520
Wolverton & Tinsman.....	8,100,000		1,500,000	
P. G. Fessler & Co.....	5,069,711	550,000	950,000	
Finley, Young & Co.....	9,957,700		3,500,000	136,800
Merriman & Foresman.....	6,515,000		1,509,900	509,370
White, Lentz & White.....	10,272,506		2,709,300	383,420
Starkweather & Munson.....	7,800,000		1,110,000	
Lutscher & Moore.....		4,000,000		600,000
Dodge, James & Stokes.....	27,483,258	3,112,980	12,946,700	349,045
Hunt & Edler.....	1,273,216	1,695,673	438,600	35,000
C. H. Krouse & Co.....	5,158,000	278,000	2,068,700	
S. N. Williams and others, on P. Her-				
dic & Co.'s yard.....	10,000,000		2,639,100	
Slonaker, Howard & Co.....	3,700,000	300,000	1,000,000	100,000
Total, Williamsport.....	220,961,922	19,872,444	58,541,100	3,587,655
Do..Lock Haven.....	34,919,444	3,460,652	4,905,000	1,476,000
Do..Baltimore.....	1,350,000			
Do..Port Deposit.....	5,200,000		600,000	45,000
Do..Philadelphia.....	9,027,948			
Total, January 1, 1874.....	271,459,314	23,333,096	64,046,100	5,108,655

## COMPARATIVE STATEMENT.—STOCK ON HAND, JANUARY 1, 1873.

	PINE.	HEMLOCK.	LATH.	PICKETS.
Williamsport.....	137,949,907	8,807,440	39,966,700	2,273,280
Lock Haven.....	32,638,741	1,930,000	5,163,000	1,503,000
Baltimore.....	2,000,000			
Port Deposit.....	4,000,000			
Philadelphia.....	10,818,990			
Total, January 1, 1873.....	187,407,638	10,737,440	45,129,700	3,776,280
Do.....do.....1874.....	271,459,314	23,333,096	64,046,100	5,108,655
Difference.....	84,051,676	12,595,656	18,916,400	1,332,375

## LUMBER.

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## STOCK ON HAND, JANUARY 1, 1872.

	PINE.	HEMLOCK.	LATH.	PICKETS.
Williamsport.....	50,550,603	2,832,500	12,687,600	1,687,815
Lock Haven.....	7,179,000		710,000	410,000
Baltimore.....	2,250,000			
Port Deposit.....	5,250,000			
Philadelphia.....	13,486,280			472,890
Total, January 1, 1872.....	78,715,883	2,832,500	13,397,600	2,570,705
Do.....do.....1874.....	271,459,314	23,333,096	64,046,100	5,108,655
Difference.....	192,743,431	20,500,596	50,648,500	2,537,950

## STOCK ON HAND, JANUARY 1, 1871.

	PINE.	HEMLOCK.	LATH.	PICKETS.
Williamsport.....	122,505,694	5,737,000	33,604,800	2,646,150
Lock Haven.....	22,312,000		2,289,000	720,000
Baltimore.....	5,000,000			
Port Deposit.....	950,000			
Philadelphia.....	10,249,971			245,133
Total, January 1, 1871.....	159,017,665	5,737,000	35,893,800	3,611,283
Do.....do.....1874.....	271,459,314	23,333,096	64,046,100	5,108,655
Difference.....	112,441,649	17,596,096	28,152,300	1,497,372

## STOCK ON HAND, JANUARY 1, 1870.

	PINE.	HEMLOCK.	LATH.	PICKETS.
Williamsport.....	134,166,157	6,098,000	27,627,300	1,653,065
Lock Haven.....	58,500,000			
Baltimore.....	3,500,000			
Port Deposit.....	1,500,000			
Philadelphia.....	11,000,000			
Total, January 1, 1870.....	208,666,157	6,098,000	27,627,300	1,653,065
Do.....do.....1874.....	271,459,314	23,333,096	64,046,100	5,108,655
Difference.....	62,793,157	17,235,096	36,418,800	3,455,590

The above is a correct statement of the amount of Susquehanna lumber, lath and pickets in first hands, in the above named markets, on the first day of January, 1874.

F. E. EMBICK,  
*Secretary.*



## LUMBER IN PENNSYLVANIA.

The following is the report of G. W. Lentz, Esq., of Williamsport, of the Committee on Lumber Statistics, made to the Lumbermen's Convention, recently held in Saginaw. It is the result of careful investigation, and shows the quantity of standing white pine, hemlock and hard wood timber, east and west of the Allegheny mountains, in this State :

	Feet.
On Pine creek and its branches.....	300,000,000
On Youngwoman's creek.....	130,000,000
On Kettle creek and its branches.....	75,000,000
On Cook's run.....	15,000,000
On Hunt's run.....	75,000,000
On First forks of the Sinnemahoning and branches.....	50,000,000
On Bennett's branch of the Sinnemahoning and branches..	30,000,000
On Anderson's creek and branches.....	150,000,000
On Susquehanna river and small branches.....	300,000,000
On Clearfield creek and branches.....	100,000,000
On Moshannon creek and branches.....	100,000,000
On Driftwood and branches of Sinnemahoning.....	50,000,000
On Musquito creek, below Clearfield.....	225,000,000
On Wickoff run.....	60,000,000
On Baker and other runs.....	75,000,000
On Beech creek, &c.....	50,000,000
Other small streams additional.....	515,000,000
Total on streams east of Alleghenies.....	2,600,000,000
Total on streams west of Alleghenies.....	1,000,000,000
Making a sum total of standing white pine east and west of the Allegheny mountains.....	3,600,000,000
Total amount of hemlock in Pennsylvania.....	7,000,000,000
Total amount of hard wood in Pennsylvania, fit for saw-logs,	4,000,000,000

## CALIFORNIA LUMBER TRADE.

The following review of the lumber trade of San Francisco, California, may be interesting :

EXPORTS.

The lumber exports from January 1, 1873, to January 1, 1874, were as follows:

TO	Feet.	Value.
Tahiti .....	1,756,841	\$31,846 00
Mexico .....	1,056,071	22,869 00
Panama .....	748,081	19,752 00
Central America .....	1,625,136	33,612 00
Australia .....	2,431,920	57,259 00
Russian Asia .....	345,458	8,677 00
China .....	1,106,808	20,250 00
Iquique .....	1,228,715	21,673 00
Eten, Peru .....	154,198	4,400 00
Callao .....	2,956,912	59,394 00
Navigator's Island .....	460,680	7,803 00
Honolulu .....	1,041,000	12,320 00
Liverpool .....	2,820	99 00
Victoria .....	82,554	2,985 00
Valparaiso .....	2,973,135	40,974 00
Molendo .....	326,579	5,720 00
Japan .....	18,270	427 00
Totals, 1873 .....	17,415,287	350,024 00
Totals, 1872 .....	16,517,171	309,325 00
Totals, 1871 .....	17,590,854	312,570 00

## RECEIPTS.

Statement of receipts of lumber, &c., at San Francisco, from January 1 to December 31, 1873 :

	Feet.	Feet.
Puget Sound and Oregon pine—Rough . . . . .	92,568,512	
Dressed . . . . .	12,805,566	
Fencing . . . . .	12,017,373	
Pickets . . . . .	48,353	
	<hr/>	
Spruce—Rough . . . . .	7,793,197	
Dressed . . . . .	342,274	
	<hr/>	
Cedar, rough . . . . .		8,135,471
Laurel and maple . . . . .		2,262,333
		146,410
Redwood—Rough . . . . .	38,797,676	
Rough, clear . . . . .	5,372,044	
Dressed, clear . . . . .	21,430,775	
	<hr/>	
		60,600,495
Carried forward . . . . .		188,584,513

## LUMBER.

	Feet.	Feet.
Amount brought forward.....		188,584,513
Redwood—Dressed, $\frac{1}{2}$ inch.....	377,308	
Siding, $\frac{1}{2}$ inch.....	1,381,456	
Battens, $\frac{1}{2}$ inch.....	418,446	B. M.
	<hr/>	1,088,605
Pickets—Rough.....	978,380	
Dressed.....	515,892	
	<hr/>	1,492,272
Railroad ties.....	2,107,349	
Telegraph poles.....	333,392	
	<hr/>	2,440,741
Sugar pine, rough.....		4,723,310
		<hr/>
Total.....		203,329,441
Total, same time in 1872.....		236,868,900
		<hr/>
		Feet.
Foreign shipments made direct from mill ports, in 1872, estimated at.....		95,000,000
Against same in 1873.....		50,000,000
		<hr/>

## SUNDRIES.

Shingles.....	60,228,750
Laths.....	27,258,503
Ship knees, pieces.....	1,553
Piles, lineal feet.....	542,253
Redwood posts.....	750,854
Broom handles, pieces.....	123,500
Spanish cedar logs, pieces.....	5,355
Railroad ties, rift, pieces.....	240,932
Ship spars, lineal feet.....	3,875
Ship spars, pieces.....	73
Poles, lineal feet.....	2,022
Poles, pieces.....	136
Lignum vitæ, pieces.....	62
Rosewood, pieces.....	261
Rosewood, tons.....	66
Primever wood, pieces.....	44
	<hr/>



## DRAINAGE OF PENNSYLVANIA.

## DRAINAGE AREA OF THE SEVERAL COUNTIES OF PENNSYLVANIA.

The respective river basins, included in Pennsylvania, are of very unequal extent. Delaware, Susquehanna and Ohio include an immense proportion of the whole State, and sub-divide it naturally into the eastern, middle and western river sections.

The following table give the respective areas of each, and also the smaller sections of the Potomac, Genesee and Erie :

*Delaware river drains the counties of*

	Sq. miles.	Acres.
Berks.....	920	588,800
Bucks.....	605	387,200
Carbon.....	400	256,000
Chester, three-fourths.....	550	354,240
Delaware.....	177	113,280
Lebanon, one-eighth.....	38	24,480
Lehigh.....	364	232,960
Luzerne, one-tenth.....	140	89,600
Montgomery.....	472	303,080
Monroe.....	600	384,000
Northampton.....	375	240,000
Philadelphia.....	126	80,640
Pike.....	600	384,000
Schuylkill, three-eighths.....	285	304,000
Wayne, three-fourths.....	719	460,800

6,371      4,203,080

*Susquehanna drains the counties of*

Adams, three-fifths.....	316	202,752
Bedford, three-fifths.....	596	381,696
Blair.....	594	380,160
Bradford.....	1,174	751,360
Cambria, two-fifths.....	268	171,520
Cameron.....	407	260,480
Centre.....	1,075	688,000
Chester, one-fourth.....	184	118,080
Clearfield, nine-tenths.....	1,070	685,440
Clinton.....	924	591,360
Columbia.....	431	275,840
Cumberland.....	544	348,160
Dauphin.....	559	357,760
Elk, one-fourth.....	174	111,680
Franklin, one-third.....	229	160,000
Fulton, one-fourth.....	105	67,200
Huntingdon.....	840	537,600
Indiana, one-tenth.....	77	49,280
Juniata.....	351	224,640
Lancaster.....	950	608,000
Lebanon, seven-eighths.....	266	171,360
Luzerne, nine-tenths.....	1,260	806,400
Lycoming.....	1,080	691,200
M'Kean, one-fourth.....	280	179,200
Mifflin.....	370	236,800
Montour.....	148	94,720
Northumberland.....	457	292,480

SUSQUEHANNA—*Continued.*

	Sq. miles.	Acres.
Perry .....	539	344,960
Potter, five-eighths .....	665	428,400
Schuylkill, three-eighths .....	475	182,400
Snyder .....	293	187,520
Susquehanna .....	797	510,080
Sullivan .....	433	275,200
Tioga .....	1,116	714,240
Union .....	258	165,120
Wyoming .....	409	261,760
York .....	900	576,000
<i>Genesee drains</i>	20,604	13,088,848
Potter, one-eighth .....	138	85,680
<i>Potomac drains</i>		
Adams, two-fifths .....	220	135,168
Bedford, two-fifths .....	398	254,464
Franklin, two-thirds .....	525	319,000
Fulton, three-fourths .....	315	201,600
Somerset, one-sixth .....	180	115,200
<i>Lake Erie drains</i>	1,638	1,025,432
Erie, one-half .....	375	240,000
<i>Ohio river drains</i>		
Allegheny .....	754	482,560
Armstrong .....	639	408,960
Beaver .....	466	298,240
Butler .....	785	502,400
Cambria, three-fifths .....	402	257,280
Clearfield, one-tenth .....	120	76,160
Clarion .....	600	384,000
Crawford .....	984	629,760
Elk, three-fourths .....	524	335,040
Erie, one-half .....	375	240,000
Fayette .....	824	527,360
Forest .....	445	284,800
Greene .....	608	389,120
Indiana, nine-tenths .....	693	443,520
Jefferson .....	645	412,800
Lawrence .....	358	229,120
M'Kean, three-fourths .....	840	537,600
Mercer .....	650	416,000
Potter, one-fourth .....	268	171,360
Somerset, five-sixths .....	888	567,040
Venango .....	516	330,240
Warren .....	861	551,040
Washington .....	896	573,440
Westmoreland .....	1,050	672,000
<b>SUMMARY.</b>	15,191	9,719,840
Delaware drains .....	6,371	4,203,080
Susquehanna drains .....	20,604	13,088,848
Genesee drains .....	138	85,680
Potomac drains .....	1,638	1,023,432
Lake Erie drains .....	375	240,000
Ohio drains .....	15,191	9,719,840
<b>Total</b> .....	44,317	28,362,880

## TANNERIES AND LEATHER.

## THE FORESTS OF PENNSYLVANIA.

In speaking recently of the condition and progress of American agriculture we incidentally alluded to the vast extent of unimproved land in Pennsylvania, and cited the number of acres of woodland in a few counties. This subject is worthy of a more extended notice, as the public has been entertained of late with voluminous efforts to get up a scare about the destruction of our forests. Leaving other States to look after their part of the case to suit themselves, we confine our attention for the present to our own. The unimproved land in Pennsylvania is distinctly classified as that which is woodland, and that which is not. There is, therefore, no room for guesswork. Taking first the counties along the northern border they show the following number of acres of woodland: Wayne, 158,892; Susquehanna, 148,789; Bradford, 204,992; Tioga, 148,153; Potter, 87,329; M'Kean, 48,177; Warren, 131,214; Erie, 126,627. This is but a single range of counties extending along the border of the great and populous State of New York.

Now let us look at the counties on or near the Ohio border: Crawford, 184,436; Mercer, 105,289; Venango, 96,167; Lawrence, 49,500; Butler, 157,247; Beaver, 71,849; Allegheny, 89,050; Washington, 113,404; Greene, 106,720. These counties adjoin what passes for a prairie State. Next let us look at the southern border: Fayette, 136,027; Westmoreland, 139,316; Somerset, 237,229; Bedford, 199,569; Fulton, 87,554; Franklin, 75,448; Huntingdon, 179,107; Cumberland, 33,909; Adams, 56,133; York, 110,139; Lancaster, 65,413; Chester, 62,161; Delaware, 10,105; Philadelphia, 2,117. It will be seen that even in the limits of this great city there are over two thousand acres of unimproved forest land. Turning over to the New Jersey border we have the following array: Montgomery, 22,310; Bucks, 39,814; Lehigh, 32,367; Northampton, 14,955; Carbon, 26,499; Monroe, 65,470; Pike, 88,065; Wyoming, 57,840. This shows that the only line of counties where the forest is greatly reduced is the one nearest New York city where the operations of the tanneries of that city are carried on, and that beyond that line they appear to have known nothing at all of the forests of the Commonwealth, yet have assumed that the scarcity in their tract was characteristic of the whole country.

In order that it may be seen how unjust it is to assume that any such scarcity is general we subjoin a statement of the unimproved woodland in



various central and interior counties: Indiana, 159,181; Jefferson, 107,425; Clearfield, 129,536; Clarion, 95,394; Cambria, 133,979; Armstrong, 121,756; Cameron, 61,216; Juniata, 65,929; Columbia, 66,245; Dauphin, 57,788; Perry, 104,240; Schuylkill, 60,876; Lycoming, 110,689; Berks, 70,932; Luzerne, 127,600; Centre, 39,129. In fact there is no region anywhere better supplied with forest, than Pennsylvania, or were the woodland is so well distributed or so little likely to be exhausted. A very large part of this forest is so rugged and mountainous, and so covered with rocks and stones that it cannot be cultivated, and will therefore always remain.

The trees constitute a regular crop, and all that is required is that some effort should be made to guard against waste by desolating fires.

The maintenance of so much land in a state of nature favors the diversification of pursuits. Thus, of the population of Pennsylvania, 356,240 are engaged in mining and manufactures; 121,253 in trade and transportation; 283,000 in professional pursuits, and 260,051 in agriculture. We have thus the strange spectacle of 27.73 per cent. of the population being sustained by professions and only 25.48 by agriculture. In Massachusetts only 12.55 per cent. are engaged in agriculture, and 50.47 in manufactures. The two pursuits sustained by the forests are tanneries and lumbering. As regards the former, there are in the State about 900 establishments, with a capital of \$12,000,000, and a yearly business of \$40,000,000. Their annual capacity is about 316,000 hides, and the products of last year amounting to about 300,000, two-thirds of the hides being domestic and one-third South America. The tanning capacity of the State, however, judging by the general diffusion of the woodland, is far beyond these figures, and is scarcely understood even by its own people. Our belief is that the tanning capacity of the State is fully equal to a million hides a year.

As regards the lumbering business we have only the report of the Susquehanna trade, and none from any of the other regions. The Susquehanna stock on hand January 1, 1873, amounted to 187,407,638 feet pine, 10,737,440 feet hemlock, 45,129,700 feet lath, and 3,776,280 feet pickets. Williamsport is the great depot of trade. To show the diffusion of the tanning and lumber interests, we take from the census of 1870 the statistics of leather tanned and lumber sawed in remote counties, given in values:

	Leather tanned.	Lumber Sawed.
Snyder .....	\$48,031 00	\$201,000 00
Allegheny .....	1,276,305 00	1,067,353 00
Somerset .....	87,388 00	171,760 00
Crawford .....	146,082 00	704,033 00
Sullivan .....	216,600 00	19,160 00
Susquehanna .....	1,179,380 00	110,230 00
Erie .....	282,042 00	395,765 00
Tioga .....	555,020 00	550,829 00
Warren .....	908,135 00	1,115,696 00
Union .....	29,617 00	165,400 00
Pike .....	266,338 00	129,700 00
Schuylkill .....	169,162 00	257,220 00
Northampton .....	340,070 00	172,795 00
Northumberland .....	181,966 00	695,450 00
Perry .....	332,041 00	59,277 00
Huntingdon .....	707,215 00	40,065 00
Montgomery .....	106,367 00	52,870 00
Lycoming .....	230,906 00	5,173,796 00
Monroe .....	1,146,014 00	286,956 00
Mifflin .....	260,202 00	31,120 00
Mercer .....	75,009 00	325,090 00
Luzerne .....	1,105,424 00	1,466,987 00
Lehigh .....	474,324 00	53,540 00
Lancaster .....	362,374 00	189,080 00
Juniata .....	243,706 00	16,980 00

### TRAINING SCHOOL FOR TANNERS.

At the last Tanners' Convention, held at Harrisburg, Pa., this subject was introduced, and seemed to meet with favor. Before any definite action, however, is taken, it seems desirable that we get clearly before our minds not only the end we propose to attain, but the means which are to be used for its accomplishment.

It will be conceded that there is need enough for instruction, but it may not be quite so clear that theoretic instruction will be of service, for, no doubt, it will be insisted that all information obtained otherwise than by practically working in a tannery "mere theory," and is of doubtful utility. We all know that such views as these have been entertained, and we must expect to meet them again. But we should remember, for our encouragement, that only a few years ago "book learning" was rejected by our farmers, while, now, no farmer thinks of getting along without the aid of an agricultural journal. It is conceded that *tanning is a chemical operation*, by which hides are converted into leather. Why, then, should not the tanner be made acquainted, as far as possible, with the laws of this union of gelatin and tannin? It is no answer to say that the tanner learns this practically after years of experience. It is desirable that the young man should start out with this capital. It gives him just so much the advantage in his professional career. But it is not true that tanners generally acquire

the requisite chemical knowledge by experience. There is no doubt that tanners have considerable practical knowledge, and by the application of this experience do make very creditable leather. But whether this leather product is made with as much *economy* as would be possible, if a more thorough and enlightened system prevailed, is quite another question, and one which our English friends would not take long to answer, if they should inspect our wastful methods. As an illustration of the advantages of some slight chemical knowledge, it may not be amiss to state a fact within the knowledge of the writer.

About thirty years ago a tanner of this State, of more than average intelligence, was tanning a very large number of North Sea sealskins—indeed, had turned his whole capacity into this description of stock. He soaked and unhaired these skins, for more than two years, precisely as he had formerly done his calfskins. Almost by an accident he discovered that warm water would greatly aid the process of freeing the skins from the grease with which they were covered, and even this did not occur to him until he saw his men resorting to *warm* water instead of *cold* to clean their hands. But then he saw his men use *soap* besides the warm water, and the further thought occurred to him that, if he could employ soap, or its equivalent, possibly he could make a further saving, and a little inquiry and thought brought him into the use of the soda ash or potash of commerce; the result was that he worked in his sealskins with less than half the labor he had been previously using. Just at this time, if a proposition had come to him to have his son join a class to study chemistry as applied to the tanner's art, the writer of this would have had much more reliable and valuable information to impart.

A careful analysis of many of the improved methods of softening dry hides will show that an alkali of some kind is used, the object and effect of which is to cut the grease, and thus allow the water a freer access to the pores of the hide. This is so simple that most tanners will say that they have always known and have in their experience used an alkali; but on a close inquiry it will be found that no intelligent use has been made of this most useful and labor-saving chemical by our tanners. Much use has of late been made of vitriol in the process of plumping the hide while in a green state; but, as compared with the English tanners, we make but a poor use of this acid. As our tanners have been and are now using this mineral acid, it is very doubtful whether we are benefited by its use.

With the aid of a more thorough knowledge, both of the acid used and the gelatin to be operated upon, we may hope in the near future to so improve our methods as to use acids of some kind to plump our sole leather, but not the vitriol of commerce now so generally in use.



Many of the defects of our present system, such as the "black rot," "white spots," and the general discoloration of grain by the drying process, may be avoided by proper study and reflection. But why attempt the enumeration of the advantages to be secured by a thorough knowledge of the "chemistry of tanning?" Without such knowledge, either in a practical or theoretical form, leather cannot be made. With these forms of knowledge joined, a much better result can be attained. Then why should not the tanners of America avail themselves of these helps?

The truth should be acknowledged that, beyond a mere form of manipulation into which our tanners have fallen, they know but little about the tanner's art, and it is this deficiency which has made it difficult, if not impossible, for us to contend with our English competitors. How shall this instruction be obtained?

No one supposes that old and so-called experienced tanners will fall away from their errors, and "go to school." But they may have sons whom they may wish to have follow their profession, and they may have struggled so hard in the rough and unskilled methods as to be willing to send their sons to a course of instruction which would shorten up at least their road to the happy goal to which their fathers have arrived.

It was with this hope, and in that belief, that the suggestion was made that a practical chemist should be employed, and, after he had prepared himself fully to apply his chemical knowledge to the art of tanning, that a class of young men who propose to devote themselves to this calling should be procured, and a thorough and systematic course of instruction be given them, with such experiments and practical tests as would really occur to a competent instructor.

Of course at the beginning there would be difficulties to overcome, both in procuring students and in securing the requisite teacher; but as time passed these difficulties would be obviated, and possibly such a practical university as Mr. Cornell has inaugurated might adopt tanning as one of the applied arts. For the present it has been suggested that Harrisburg should be the location, and there seems an appropriateness in this location which will be generally recognized.

Mr. Peter Cooper, many years ago, offered his institution and its full equipment to teach chemistry, but it was thought then, as now, that there are advantages in a country location that far outweigh those offered by Mr. Cooper in New York city. The class should be in the immediate neighborhood of, or in actual contact with a tannery, where the practical experiments and their results could be observed.

It is not unreasonable to anticipate that the day will arrive when a small model tannery could be worked by the class. This course of instruction could be more or less complete, according to the advanced condition of the

pupil on entering, or the disposition of the latter to make himself proficient in his calling, and, to a reasonably intelligent and fairly educated youth of sixteen to eighteen years, a course of instruction lasting through a single term of three months would send him home with many useful ideas, from which, if afterward applied—as no doubt would be the case—practically, the most satisfactory results might be anticipated.

As a further means of rendering these investigations serviceable, the trade journals would always be glad to publish the result of any experiments, and open their columns for the discussion of all topics which would tend to throw light upon the different problems of the trade. It may be that this whole scheme is chimerical; if so, those whose interests are to be affected will discover it, and govern themselves accordingly.

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### BOOT AND SHOE BUSINESS OF PHILADELPHIA, 1873

In reviewing the business of the past year, we find the most important points of interest of which to make mention have been the large demand for children's and infants' shoes, a greatly increased production of goods for men's and boys' wear, and a much heavier business done by the auction houses.

#### MANUFACTURERS OF WOMEN'S AND CHILDREN'S GOODS.

The trade of the year among the manufacturers of medium and fine goods for ladies' and misses' wear has been a variable one. The year opened with encouraging prospects for an early and fair demand, but as the season progressed it became more or less fitful; some weeks a very active trade was realized, while others were far less encouraging. The causes of the unsatisfactory trade during the spring were: the long continued winter, in which heavy boots or rubbers had been chiefly worn, thereby causing many goods adapted to the early spring trade to be still on hand; a smaller volume of money circulating than during the previous year; a feeling that prices ought to be lower; and the loss to a great extent of the New Orleans trade, growing out of the political troubles there. While the facts named were prejudicial to the manufacturers, there were advantages also which came as an offset. The first of these was a larger territory traveled over by their salesmen than ever before, and new trade brought in. Second, an advance in prices of five to ten cents per pair on children's shoes. The cause of this advance was that goods had been sold too low the year before, and manufacturers felt that they should have remunerating profits, and while the advance somewhat curtailed the demand it also made what remained more profitable. Then, again, the marked

backwardness of buyers in purchasing goods beyond their known wants kept their indebtedness within very moderate limits, and resulted, as a general thing, in prompt and satisfactory payments. As buyers were more than usually cautious in their spring purchases, it led to much of the same spirit upon the part of the manufacturers, and at the close of the season, as the stocks on hand were light, they were ready very early to get out samples, and go to work for the autumn trade.

Just here we would make mention of the fact that there is not now, as formerly, a season of a month or two, in the summer and also in the winter, when business is brought almost entirely to a standstill, but as soon as the spring trade is closed arrangements are made for the autumn, which keeps up a uniformity in manufacturing to a good degree all the year round. The unfortunate panic which broke out in September, having its origin in the failure of a private banking house located in this city, greatly paralyzed this branch of the shoe trade, on account of the greater backwardness in purchasing by country dealers. A good many buyers came to market, but there was no speculative feeling among them, and traveling salesmen found the same spirit generally existing throughout the country. Had the panic come one month later, a much larger business would have been transacted by this branch of manufacturers, for by that time the first orders would have been filled, and the goods in a measure sold; but, coming as it did in the midst of the delivery of the first purchases, and while dealers were getting ready for the early autumn trade, they took but very moderate amounts of goods, and have since bought cautiously, exhibiting as much anxiety to liquidate their debts as to increase their stocks. We have before spoken of the large demand for children's and infants' shoes. The makers of goods for ladies' and misses' wear have had their share in this trade, for having the past year gone largely into the manufacture of small shoes in connection with large ones, they have participated in the increased demand, which has done much to prevent the disappointment that must have resulted had it not been for the large call for small shoes. The heavy demand for children's and infants' shoes proves this market to be at the head of the supply for that class of goods, and there are probably as many of them made here as in all the rest of the country put together.

#### MEN'S AND BOYS' GOODS.

As we have already said, the manufacture of goods for men and boys has greatly increased here, and had it not been for the panic the amount sold would probably have been nearly double what it was the previous year. The manufacture of clinching screw work has been introduced, and the maker looks upon his prospects as entirely satisfactory.



## THE JOBBING TRADE.

There has been a very considerable falling off in the amount of business transacted by the jobbers; this, in part, has grown out of the backwardness of the spring trade and the more than usual conservative spirit on their part. They did not lay themselves out to do a large business at the opening of the year, and have bought goods cautiously both for the spring and autumn trades, and while at all times they have had satisfactory assortments on hand, both spring and autumn markets have closed with much lighter stocks to carry over to the next season than for a number of years past.

## THE AUCTION BUSINESS.

The largely increased sales of the auction houses is no doubt one of the reasons why fewer goods have been sold by the jobbers. As will be seen by the annexed table of the receipts of boots and shoes by sea and by railroad, there has been an increase of about ten per cent. over the previous year, and as the jobbers have received fewer goods, the increase of course must have found sale in the auction houses. We have here seven auction houses devoted wholly or in part to the sale of boots and shoes.

They have generally been fully supplied with goods, both of New England and our own city manufacture. They, as a general thing, have been of a better quality than usual, and notwithstanding there have been times when goods have sold very low, from the fact of their having been kept so well supplied. And few failures having taken place among those who have contributed most of city made goods, we judge that upon the whole, paying prices have been obtained.

## INDIA RUBBER GOODS.

The agents of the manufacturers of rubbers have also done an active trade through the autumn. The demand set in early, and for a time the call for goods was in excess of the supply at an advance of five cents per pair on shoes, and twenty five cents on boots.

## SUMMARY.

Since the panic broke out there have been a few failures among city manufacturers doing moderate amounts of business, and by country dealers, in some cases, extensions have been asked, the result of which will not be known for a few months yet. In summing up the year's trade we arrive at the conclusion that, if in all things it has not been just what could be desired, it has been sufficiently good to encourage both manufacturers and jobbers to enter on the year 1874 with reasonably good prospects.

We annex the usual table of receipts from out-of-town places during the past year :

	By sea.	By railroad.	Total.
January.....	2,947	1,420	4,367
February.....	6,204	1,154	7,358
March.....	7,237	2,193	9,430
April.....	6,924	1,090	8,014
May.....	6,748	1,527	8,275
June.....	3,349	1,840	5,189
July.....	5,656	681	6,337
August.....	9,331	1,300	10,631
September.....	8,636	2,110	10,746
October.....	10,259	3,230	13,489
November.....	6,352	4,918	11,270
December.....	5,734	1,074	6,808
Total.....	79,377	22,537	101,914
Received in 1872.....			91,141
Increase in receipts during 1873 over 1872.....			10,773

Jan. 22, 1874—There passed through the hands of the inspector of leather for the city and county of Philadelphia, during the year 1873, 544,448 sides of leather, being an increase of 56,562 sides over the previous year.

#### WHERE AMERICAN SOLE LEATHER IS USED IN EUROPE.

A few years ago all the hemlock sole leather sent from here was used in Great Britain, but it has now been successfully introduced in all parts of Germany, as well as Switzerland, Austria, Belgium and Holland, while our success in obtaining premiums at Vienna, and the favorable impression our stock made on visitors there, will go far toward introducing it in other kingdoms of Europe.

The great preponderance in amount of leather sent to Liverpool, as shown by the table of exports, is due to the fact of that port being the most convenient for shipments from New York and Boston, and considerable leather goes there for reshipment to other ports. As an instance of this, one large firm in the New York Swamp have furnished us with a list of their own shipments, from which we note that 15,000 sides went to Hamburg via Liverpool, and 6,000 to the same port via London, while 24,000 sides were shipped to New Castle, Leeds and Manchester factors, but all via Liverpool and London. Among our shipments to "various ports" were 8,000 sides to Rotterdam, and over 10,000 sides to Switzerland via France. The new "Cardiff Line" took out several thousand sides to Manchester and Liverpool during the early spring, as they offered some advantages in the way of freights, &c. We saw last week, in the store of a New York firm, quite a lot of sole leather baled up and marked for Riga, probably the first lot destined for a Russian port.

## IMPORTS OF FOREIGN GOATSKINS IN THE UNITED STATES FOR 1873.

The number of Mexican skins imported into New York for the past year does not vary materially from that of 1872. Fewer Cape and Calcutta skins have been entered this year than last. Imports of Mocha goatskins here have increased from 272 bales in 1872 to over 600 bales in 1873. Only a few years ago all the skins of this description came in at Salem, Massachusetts.

Imports at Boston have been principally of cargoes of Cape and Calcutta goatskins, brought direct from those countries. The receipts at Boston have fallen off largely this year. In 1872 there were 5,521 bales Cape, 1,452 bales Calcutta raw skins, and 1,000 bales of Mochas received, while in 1873 only 3,000 bales Cape and 844 bales Calcutta came in.

In Philadelphia 243,349 Cape goatskins have been received, mostly from the London sales. None of this stock came there last year, but 1,000 bales of Calcutta skins were received during that period, and there were no receipts of that stock for 1873.

The receipts at Baltimore of Cape skins from London were 1,743 bales, showing a large increase.

We notice an increase in the number of Cape skins coming to this country, 931,871 pieces having been received in 1873, against 543,965 in 1872. The fact that this increase is almost entirely in the class of skins sold at London auctions should be a lesson to our importers, who are losing their direct trade from the miserable quality and poor assortment of skins they have brought into the country for the past few years. The morocco trade who use all these goatskins complain that 1873 has been a very poor year in their business.

## IMPORTS OF GOATSKINS INTO PHILADELPHIA FOR 1873.

The Philadelphia Custom House monthly reports of imports of goatskins for the year 1873 have been as follows :

		Value.
March 31, for three months, via Liverpool, Cape Town skins, 831 bales,	136, 039	\$173, 462
April 30, Cape Town skins.....	2, 500	1, 958
May 31, Cape Town skins.....	24, 660	27, 836
July 31, Cape Town skins.....	18, 820	17, 358
September 30, Cape Town skins.....	22, 210	20, 756
November 30, Cape Town skins.....	29, 200	28, 601
December 31, Cape Town skins.....	9, 920	9, 820
Total.....	243, 349	279, 791



EXPORTS OF HIDES FROM PHILADELPHIA FOR THE FIRST SIX  
MONTHS OF 1874.

To	Quantity. Bdls.	Value.
Liverpool.....	18,843	\$139,420
Antwerp.....	4,120	30,916
Total.....	22,963	170,336

EXPORTS OF LEATHER FROM PHILADELPHIA FROM JANUARY  
FIRST TO JULY FIRST, 1874.

SHIPMENTS TO ANTWERP.

Date.	Steamship.	Quantity.	Value.
January 5.....	Vaderland.....	30,618 lbs	\$12,247
March 5.....	Vaderland.....	15,500 lbs	3,100
May 7.....	Vaderland.....	111,624 lbs	22,325
June 25.....	Vaderland.....	28,533 lbs	5,701

SHIPMENTS TO LIVERPOOL.

Date.	Steamship.	Quantity.	Value.
April 2.....	Indiana.....	100 rolls	\$4,000
April 23.....	Illinois.....	9 rolls	370
May 28.....	Pennsylvania ..	10,800 lbs	2,000

## IMPORTS OF HIDES AT NEW YORK,

For April, May and June, 1874, and total imports for first six months of 1874, 1873 and 1872, and for years 1873, 1872 and 1871.

FOREIGN.	April.	May.	June.	Totals.	1874.		1873.		1872.		1871.	
					Total 1st 6 months.		Total 1st 6 months.		Total 1st 6 months.		Total.	Total.
African.....				.....	6, 266	18, 413	27, 362	38, 949	30, 122	51, 120		
Brazil.....			200	200	1, 278	1, 361	536	1, 373	1, 447	12, 192		
Buenos Ayres.....	58, 327	18, 052	44, 518	120, 897	261, 520	199, 049	239, 791	268, 770	523, 481	764, 166		
Central America.....	20, 650	13, 852	19, 415	53, 917	106, 442	68, 166	78, 329	144, 179	137, 073	166, 310		
European ports.....			4, 650	4, 650	23, 379	1, 216	38, 082	14, 303	39, 216	82, 720		
East India, loose.....	104		339	443	443	2, 769	2, 530	8, 843	4, 852	2, 029		
Mexican.....	7, 559	10, 282	18, 243	36, 084	57, 954	41, 482	64, 123	76, 519	100, 954	128, 170		
Montevideo.....	16, 023	84, 013	13, 179	113, 215	257, 241	223, 658	247, 532	326, 888	424, 191	578, 973		
Orinoco.....				.....	21, 223	4, 311	20, 795	8, 509	65, 943	76, 925		
Rio Grande.....	39, 970	22, 234	15, 268	77, 562	121, 657	90, 238	97, 171	132, 458	197, 744	299, 061		
Spanish Main.....		7, 453	744	8, 197	29, 989	30, 149	58, 367	75, 357	91, 000	128, 401		
West Indies.....	1, 551	11, 754	11, 706	25, 011	30, 395	3, 811	4, 154	8, 530	10, 702	14, 721		
Sundry foreign.....			1, 996	1, 996	2, 049	686	1, 306	3, 005	4, 420	4, 929		
Total, foreign.....	144, 184	167, 730	130, 258	442, 172	924, 836	685, 309	880, 688	1, 107, 683	1, 632, 145	2, 279, 717		
<i>Domestic.</i>												
California.....	13, 092			13, 092	14, 579	36, 501	42, 830	81, 411	123, 407	48, 327		
New Orleans.....	28, 727	22, 780	31, 356	82, 863	179, 281	385, 366	220, 953	528, 980	365, 091	250, 482		
Southern.....	7, 207	3, 023	4, 763	14, 993	60, 837	17, 753	20, 498	33, 446	37, 924	39, 207		
Texas.....	47, 897	26, 416	24, 927	97, 240	209, 187	338, 505	381, 333	551, 642	566, 245	472, 519		
Railroads.....	40, 129	15, 220	22, 459	79, 808	178, 581	74, 625	35, 542	164, 598	76, 388	22, 343		
Sundry domestic.....	4, 843	2, 072	5, 527	12, 442	12, 602	1, 403	8, 021	2, 837	3, 505	3, 901		
Total, domestic.....	141, 895	69, 511	89, 032	300, 438	655, 067	854, 153	703, 419	1, 362, 354	1, 172, 560	836, 779		
Total, foreign & domestic..	286, 079	237, 241	219, 290	742, 610	1, 579, 903	1, 539, 462	1, 584, 107	2, 470, 597	2, 804, 705	3, 116, 496		
<i>Calcutta.</i>												
Bales.....	630	354	412	1, 396	2, 927	2, 785	2, 132	4, 770	5, 078	6, 193		

# MINERAL STATISTICS

OF

## PENNSYLVANIA,

ORDERED TO BE COLLECTED BY ACT OF MAY 9, 1871.





## MINERAL STATISTICS OF PENNSYLVANIA.

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The Legislature by act of the 9th of May, 1871, passed the following act, see pamphlet laws, page 261-2, "For the collection of mineral statistics :"

SECTION 1. *Be it enacted by the Senate and House of Representatives of the Commonwealth of Pennsylvania in General Assembly met, and it is hereby enacted by the authority of the same,* That in addition to the information now required to be furnished to the Auditor General by the several railroad and canal companies of this Commonwealth, each of said railroad and canal companies when their railroad or canal passes through any of the coal regions of the State, shall report for the year 1871, and annually as soon after the first day of January in each year, or the close of the fiscal year of said companies, as the information can be procured, under the oath of one of the officers of said company, to the Auditor General, the quantity of coal of each kind, and of coke in tons of two thousand pounds each, received for transportation at each station on every such railroad, and at each coal shipping point on said canal, distinguishing in said report the quantities received direct from the mines from that received from other railroads or canals, giving the name of said connecting railroads or canals in such a manner that the amount of the production of coal on the line of said railroad or canal may be correctly ascertained. The Monongahela slack-water navigation company, and all other slack-water navigation companies engaged in conveying coal or coke are hereby required to make returns in the same manner as is hereinbefore required of railroad and canal companies.

SECTION 2. It shall also be the duty of each of said railroad companies to report the quantity of coal purchased or mined for their own use in this State by them during each year, and which was produced along the line of said railroad, and stating at what place or places the same was mined, and which was not included in the reports of coal received for transportation before mentioned of said railroad, or of any other railroad or canal.

SECTION 3. It shall be the duty of all coal mining companies or firms, and

individuals working mines, and of all State and county officers, to furnish to the Auditor General, in answer to his letters or circulars, all information in their possession in regard to the quantity of coal mined that is sent to market direct by any navigable river, or used by any rolling mill, blast furnace, salt works or otherwise, and which is not transported on any railroad, canal or slack-water navigation company, and also to inform him when and of whom correct information as to the coal production of any such locality can be procured; and further to inform him of all accidents in mines in counties where there is no mine inspector appointed by law, and how the same was caused.

SECTION 4. It shall be the duty of the Auditor General, on receiving said reports, and such other authentic information as he shall collect, to collate said reports and information and make a report giving the results only in tabular form, showing the quantity of coal mined during each year in each county, and in each important coal producing region in a perspicuous form, separating the several kinds of coal into anthracite, semi-bituminous, bituminous and splint or block coal suitable for smelting iron, giving also from time to time the statistics of each region from the beginning of its coal trade so far as it can be ascertained; he shall also specially report the number of accidents resulting in death or injury in coal mines in those counties where there is no mine inspector, classifying them according to the cause thereof, whether occasioned by fire, explosions, falls of roofs or coal in shafts or slopes or other causes under ground or at the surface.

SECTION 5. The Auditor General shall also, in the same manner, collect statistics, collate, classify and report, at the same time, the quantities of petroleum, salt, iron ore, zinc and other mineral productions of the Commonwealth; also the pig iron and merchant or wrought iron manufactured in the Commonwealth.

SECTION 6. Eight thousand copies of the said report of the Auditor General, together with his suggestions on the workings of existing laws and his propositions as to new enactments, shall be published for distribution annually, as soon as it is prepared with the title of the Mineral Statistics of Pennsylvania; and one copy thereof shall be sent by mail, by the Auditor General, to each person who shall have furnished him with information as aforesaid and the balance shall be delivered to the Legislature for distribution.

SECTION 7. Any railroad or canal, or slack-water navigation company, or coal mining company, firm or individual engaged in mining, or any county officer who shall neglect or refuse, for thirty days, to make report or give the information required by this act shall be liable to a penalty of one hundred dollars to be recovered by order of the Auditor General, in an action of debt in which the Commonwealth shall be plaintiff, by the district attor-



ney of the proper county, the one-half thereof to go to said district attorney and the other half for the use of the poor of the proper poor district.

JAMES H. WEBB,

*Speaker of the House of Representatives.*

WILLIAM A. WALLACE,

*Speaker of the Senate.*

APPROVED—The ninth day of May, Anno Domini one thousand eight hundred and seventy-one.

JNO. W. GEARY.

This by 3d section of the act of 15th May, 1874, see pamphlet laws, page 194, was extended to the Secretary of Internal Affairs.

SECTION 3. That hereafter the Secretary of Internal Affairs, in lieu of the Auditor General, shall send out the blanks required by the act of May ninth, one thousand eight hundred and seventy-one, entitled "An Act for the collection of mineral statistics," and said secretary shall do and perform all the duties enjoined in said act in regard to the collecting, compiling and publishing a report of the same number of copies ordered to be published by the Auditor General.

The act of 11th of May, 1874, see pamphlet laws, page 136, ordered answers to be made to the interrogatories under penalty.

SECTION 4. The Secretary of Internal Affairs shall exercise all the powers and perform all the duties which at the time of entering upon his office shall appertain to the office of Surveyor General. His department shall embrace a bureau of industrial statistics, the business of which shall be to impartially inquire into the relations of capital and labor, in their bearings upon the social, educational and industrial welfare of all classes of working people, and to offer practical suggestions for the improvement of the same.

The said bureau shall further collect, compile and publish such statistics in regard to the wages of labor and the social condition of the laboring classes as may enable the people of the State to judge how far legislation can be invoked to correct existing evils, and in order to facilitate the duties herein imposed all corporations, firms or individuals engaged in mining, manufacturing or other business, and all persons working for wages within this Commonwealth are hereby required to furnish such statistical information as the chief of said bureau may demand. The chief or duly authorized deputy, shall have power to issue subpoenas, administer oaths and take testimony in all matters relating to duties herein required of said bureau. Any corporation, firm or individual doing business within this Commonwealth who shall neglect or refuse for thirty days to answer questions by circular or upon personal application, or who shall refuse to obey the subpoena and give testimony according to the provisions of this act, shall be liable to a penalty of one hundred dollars, to be collected by order of the

Commissioner of Statistics in an action of debt in which the Commonwealth of Pennsylvania shall be plaintiff. This bureau shall also be required to collect, compile and publish annually the productive statistics of agriculture, mining, manufacturing, commercial and other business interests of the State, and the act of 12th April, 1872, entitled "An Act to provide for the establishment of a bureau of statistics on the subject of labor, and for other purposes," is hereby repealed from and after the first Tuesday of May, 1875.

The Secretary of Internal Affairs shall discharge such duties relating to corporations, to the charitable institutions, the agricultural, manufacturing, mining, mineral, timber and other material or business interests of the State as may be prescribed by law. It shall be his especial duty to exercise a watchful supervision over the railroad, banking, mining, manufacturing and other business corporations of the State, and to see that they confine themselves strictly within their corporate limits; and in case any citizen or citizens shall charge, under oath, any corporation with transcending its corporate functions or infringing upon the rights of individual citizens, said secretary shall carefully investigate such charges and may require from said corporation a special report as enjoined in the Constitution of the State; and in case he believes the charges are just, and the matter complained of is beyond the ordinary province of individual redress, he shall certify his opinion to the Attorney General of the State, whose duty it shall be, by an appropriate legal remedy, to redress the same by a proceeding in the courts, at the expense of the State: *Provided*, The Secretary of Internal Affairs may, with the approval of the Governor, appoint for four years from the first Tuesday of May, 1875, a chief of the bureau of industrial statistics, besides the other clerks of his office allowed by law, whose salary shall be \$2,500 per annum.

APPROVED—The 11th day of May, A. D. 1874.

JOHN F. HARTRANFT.

## MINERAL PRODUCTS OF PENNSYLVANIA.

The following shows the mineral products of Pennsylvania, the totals being given first:

	No. establishments.	Products.
Total .....	3,086	\$76,208,745 00
Coal, anthracite .....	229	38,436,745 00
Coal, bituminous .....	369	13,921,069 00
Copper .....	2	7,800 00
Iron ore .....	186	2,944,146 00
Marble .....	6	101,000 00
Nickel .....	1	24,000 00
Petroleum .....	2,148	18,045,967 00
Slate .....	28	618,229 00
Stone .....	126	873,876 00
Zinc .....	1	235,555 00

The above mentioned 3,086 Pennsylvania establishments have invested a cash capital of \$84,660,276; give constant employment to 81,215 hands, to whom they pay \$38,815,276 wages annually, and use \$6,069,917 worth of material in their mining operations. The mineral products of Pennsylvania is over seventeen times larger than that of the State of New York, and lacks only \$182,214 of equaling the entire product of all the other States and Territories together.

## THE AGE OF COAL.

It seems probable that vegetable matter may, under favorable conditions, be converted into coal much more rapidly than most chemical geologists are in the habit of assuming. At least, a curious instance of an approach toward such conversion within the historic period has been brought before the German Geological Society. In one of the old mines of the Upper Hartz some of the wood originally employed as timbering has become so far altered as to assume most of the characteristics of a new lignite, or brown coal. It appears that certain of the levels in the ancient workings of this mine are filled with refuse matter, consisting chiefly of fragments of clay slate, more or less saturated with mine water, and containing here and there fragments of the old timber. This wood when in the mine, is wet, and of a leathery consistence, but on exposure to the air it rapidly hardens



to a solid substance, having most, if not all, the characteristics of a true lignite. It breaks with a well marked conchoidal fracture, and the parts which are most altered present the black lustrous appearance characteristic of the German "pitch coals," At the same time, chemical examination of the same wood shows that it stands actually nearer to true coal than do some of the younger tertiary lignites. This instance seems, therefore, to prove that pine wood, when placed under highly favorable conditions, may be converted into a genuine lignite, within a period which, from what we know of the history of mining in Hartz, cannot have extended beyond four centuries.

PROGRESSIVE STAGES OF COAL PRODUCTION.

An interesting statistical table was recently submitted to the French Society for the Advancement of Science, showing the progressive stages of coal production in the six leading industrial countries of the world. We make the following abstract:—(the figures used represent millions of tons.)

	England.	U. States.	Germany.	Belgium.	France.	Austria.
1830.....	20	1 <sup>1</sup> / <sub>2</sub>	1 <sup>1</sup> / <sub>2</sub>	2	1 <sup>1</sup> / <sub>2</sub>	.....
1840.....	34	3 <sup>1</sup> / <sub>2</sub>	2 <sup>1</sup> / <sub>2</sub>	4	3	.....
1850.....	56	5 <sup>1</sup> / <sub>2</sub>	4 <sup>1</sup> / <sub>2</sub>	6	4 <sup>1</sup> / <sub>2</sub>	.....
1860.....	85	15	12 <sup>1</sup> / <sub>2</sub>	10	8 <sup>1</sup> / <sub>2</sub>	2
1870.....	118	39	26 <sup>1</sup> / <sub>2</sub>	14	13	.....
1872.....	132	43	33	16	15	5

The United States is the only one of these countries which has vast resources of coal still undeveloped, and, indeed, unknown. Our production, even as compared with that of other countries, gives but little indication of our productive capacity.

CONSUMPTION OF COAL BY VARIOUS INDUSTRIES—ESPECIALLY THAT OF IRON.

In England the Coal Commission has ascertained the consumption of coal by the various industries of Great Britain, with the view of arriving at an estimate of the probable time during which coal-fields now known and worked would supply coal at reasonable prices. But the resulting figures given below show quite well the relative importance of the various

industries. In many branches of manufacture the products estimated by weight are very valuable, thus giving a high total value to their products, but it is also true that, as a rule, those industries that use the most coal use the greater amount of raw material, and that very nearly in proportion to the amount of coal used. Hence, directly and indirectly, these industries employ more labor and give rise to a greater interchange of products. They are, therefore, both on account of population and creation of business interests, the most important to a Commonwealth. Out of 1,000 tons mined in Great Britain, the following industries use the amounts opposite their names :

	Tons.
Paper manufacture.....	6
Copper, lead, zinc and tin smelting.....	8
Waterworks.....	14
Breweries and distilleries.....	18
Chemical works.....	19
Railroads.....	20
Steamships.....	30
Fire brick and glass works and lime kilns.....	31
Textile industries.....	42
Gas works.....	60
Mining.....	67
Exportation.....	92
Miscellaneous, including steam engines.....	172
Iron and steel works.....	300

We have unfortunately, no means of compiling a similar table for this country. Few are as yet alive to the necessity of such figures as clearly show the demand of our various industries for raw materials, and the various bureaus of government collect commercial rather than technical information. It is only in cases where the industry has been attacked and forced to defend itself that we have accurate data. The iron trade of this country has been and is in this situation, and has had since 1854 a very good system of collecting trade statistics. By its means the trade has been somewhat protected from foreign misrepresentation and misunderstanding at home. (Though much remains to be done to place it on a proper footing.) We must get together the compact body of capitalists and experts required for the successful extension of an industry opposed by such accumulations of skill, experience and capital as Great Britain possesses. We must create our own system of development, and the better the hands into which this work falls the sooner will the desired result be attained. One of the first steps of progress should be for all the older branches of industry, not es-

pecially that of iron but of all manufactures, to collect, either through existing associations or otherwise, accurate technical data of their business. Not commercial, such as the totals produce, the number of hands employed, and the value of products, but the figures showing the amount of raw material, labor, steam and water power, &c., used for each unit of production. No injury could result from the exact determination of these items, since they are practically common property already, and the tabulation of the information would only put it into an exact form, and would in itself be a most efficient stimulus to improvement. We are making rapid progress, however, and need have no fear of the ultimate result.

The importance of the iron industry is often underrated in purely commercial quarters. We can, however, show that in one point of view namely, as regards consumption of coal, it is fully as important here as in England, that is in comparison with other industries. We find that the United States produced in 1873

- 2,290,658 tons pig iron exclusive of charcoal pig.
- 721,775 tons iron rails.
- 980,000 tons rolled iron of other kinds.
- 128,296 tons Bessemer steel rails.
- 40,0000 tons cast steel.

We find also that the total production of anthracite and bituminous coal amounted in

1873 to.....	25,567,492 tons anthracite.
1873 to.....	25,295,448 tons bituminous.
Total.....	50,862,940

For cast steel we estimate only the coal required to convert from bar iron. The tons used are all those of 2,000 pounds.

The amount of cast steel for 1873 is stated on the authority of the manufacturers before Congress. The amount of coal is taken from *Miners' Journal Register*. For the other figures we are indebted to report of the American Iron and Steel Association. Now, having these figures we are enable to work backward, by knowing the ratio of coal used to the ton of iron of different kinds, and to the ton of steel. We make the following estimates, based on experience and careful calculation to cover waste, loss on coal in coking, &c. :

One ton pig iron requires.....	2.25 tons coal.
One ton rolled iron, other than rails.....	2.40    “
One ton iron rails, including steel-headed rails .....	2.       “
One ton Bessemer rails.....	1.80    “
One ton cast steel.....	5.       “



These figures are considered slightly low, certainly fairly representing the average work of the whole country. They refer, of course, to the finished merchantable product in each case. Multiplying one set of figures by the other, we have :

	Tons.
Tons pig iron.....	$2,290,658 \times 2.25 = 5,153,980$
Tons iron rails.....	$721,775 \times 2. = 1,443,550$
Tons rolled iron.....	$980,000 \times 2.4 = 2,352,000$
Tons of Bessemer rails.....	$128,266 \times 1.80 = 230,878$
Tons of cast steel.....	$40,000 \times 5. = 2,000,000$
<hr/>	
Total tons coal.....	$9,380,408$

Taking these totals we find that the manufacture of iron in the United States required no less than  $18\frac{1}{2}$  per cent. of the coal mined in the country. This is merely for the production of the metal, not including the transportation of the  $18\frac{1}{2}$  per cent. of the entire coal, nor the power used in mining it.

Our estimate includes iron, excepting rails, only as a raw material for a second series of industries. The pig iron goes into castings say to one-third the amount produced, and the plate and bar iron goes into a vast variety of products. The foundries, forges, mills, and mechanical and locomotive shops form a most extensive series of industries, perhaps rivaling the original in importance. But they all depend on the original production of iron, as given above, and this industry alone uses nearly one-fifth of the entire coal mined in the country.

We cannot compare our estimate with the English figures as they include all the other industries mentioned, while we are unable to make an estimate of them. If, however, England mined last year 130,000,000 tons of coal and used 39,000,000 for all her iron and steel works, we make a good showing with over  $9\frac{1}{4}$  million tons used solely to produce the iron itself.

When we consider the facts involved here, we see how vast an industry this represents. Coal forms but a small part of its needs; its demand for iron ore peoples portions of our country; and its need of limestone, firebrick, machinery and manufactured products of all kinds, gives rise to an enormous interchange of products. Very few have any idea of the transportation required to effect this exchange. It is easy to see why such an industry should be protected. We can judge of its value to England by the sacrifices she makes and the efforts she puts forth to break up our trade and retain the markets of the world. It is worth as much to us as it is to her, and it is incumbent on us to use every means in our power to supply our own wants and transfer hither as much of her trade as we can.

### ANALYSIS OF ANTHRACITE COAL AND COKE FOR BLAST FURNACES.

We are enabled to present herewith some information concerning mineral fuel for blast furnace use which will be found of interest and value, and which may be accepted as entirely trustworthy. Iron masters using anthracite coal or coke in their furnaces, have, as the rule, looked too little to the quality of the fuel. In many instances one coal is considered practically as good as another, and the cheapest and most accessible fuel has been, all things considered, the best. We do not need to tell metallurgists that this is often a serious and costly mistake, and that only careful scientific investigation can be relied upon to determine with certainty whether a coal or coke is fit for use in iron making, or whether fuel brought from a greater distance and if need be, at greater cost, would not be in the end cheaper and more profitable. It is, of course, impossible within the brief compass of this article to discuss the quality, for iron making purposes, of the various fuels employed in different sections of the country. This must be separately determined in each instance, but as a guide to the intelligent examination of fuels we present the following analysis of anthracite coal and coke, the result of which may be taken as average standards by which the value of other fuels may be determined. The analyses, now given to the public for the first time, were made by Mr. J. Blodget Britton, the eminent metallurgical chemist of Philadelphia. The experience of this gentleman in the examination of coals for iron making purposes is large, and the fact that he is the authority for the accuracy of the following analyses entitles them to careful and intelligent consideration by iron makers:

Average results of analyses of nine fair average samples of good anthracite from Wyoming Valley:

Moisture .....	1.38	
Volatile combustible matter.....	3.52	
Ash.....	3.24	
Fixed carbon.....	91.86	
	<hr/>	
	100.00	
	<hr/>	
Sulphur.....	.220	} Included in the above.
Phosphorus.....	.011	

Average results of analyses of six fair average samples of good anthracite from the Schuylkill region :

Moisture .....	1.35
Volatile combustible matter.....	3.78
Ash.....	5.81
Fixed carbon.....	89.06
	<hr/>
	100.00

Sulphur.....	.300	} Included in the above.
Phosphorus.....	.024	

Average results of analyses of nine fair average samples of good anthracite from the Lehigh Valley :

Moisture .....	1.30
Volatile combustible matter.....	3.05
Ash.....	3.54
Fixed carbon.....	92.11
	<hr/>
	100.00

Sulphur.....	.240	} Included in the above.
Phosphorus.....	.005	

Results of analyses of a sample of Connellsville coke—an average of forty-nine different pieces :

Moisture .....	.490
Ash.....	11.322
Sulphur.....	.693
Phosphoric acid (phosphorus, .013).....	.029
Carbon.....	87.456
	<hr/>
	100.00

Results of analyses of the ash of the coke :

Silica .....	47.90
Alumina.....	47.76
Sesquioxyd of iron .....	1.43
Lime.....	1.48
Magnesia.....	.53
Sulphur.....	trace.
Phosphoric acid (phosphorus, .09).....	.21
Potash and soda.....	.49
Undetected matter and loss.....	.20
	<hr/>
	100.00



Not a few of the anthracites sent to market contain a high per cent. of sulphur and a great deal of ash and slaty matter, entirely unfitting them for blast furnace use. The best of them are only second to charcoal for metallurgical purposes. The Connellsville coal is inferior to no other in coking quality. The coke is hard, has a good metallic ring when struck, bears much handling without breaking, does not materially deteriorate by keeping, but loses some of its sulphur. It is an elegant blast furnace fuel, and may be recognized as a standard. A purer coke, however, is afforded by some other of our bituminous coals.

## ANALYSIS OF COAL.

We find in Johnson's "Analysis of American Coals," the figures showing the average number of cubic feet in the ton of anthracite coal to be 43.16, thus :

Lykens Valley .....	46.13
Lackawanna .....	45.82
Old Co.'s Lehigh.....	40.49
Peach Mountain R. A.....	41.64
Forest Improvement Co.....	41.74

## THE COAL TRADE.

## A COMPARISON OF PRESENT AND PREVIOUS PRICES.

The coal trade just now is unusually active. Inquiries by our reporters of prominent dealers and shippers show that while there is a brisk demand the supply is large. Vessels are very scarce, and the prices of the mines have advanced from \$3 to \$3 25. For the Schuylkill region notice has been given by circular advancing the price of coal for the city and line trade: lump, steamboat, broken and chestnut, 15 cents a ton; egg, 10 cents; stove, 25 cents, which, of course, necessitates a corresponding advance on the part of the retailers. Apropos of the present and prospective high prices of anthracite the following table exhibiting the average annual price per ton per cargo at Philadelphia from 1834 to 1866, will be of interest :

## THE PRICE OF COAL AT CERTAIN PERIODS.

1834 .....	\$4 84	1850 .....	\$3 64
1835 .....	4 84	1851 .....	3 34
1836 .....	6 64	1852 .....	3 46
1837 .....	6 72	1853 .....	3 70
1838 .....	5 27	1854 .....	5 19
1839 .....	5 00	1855 .....	4 49
1840 .....	4 91	1856 .....	4 11
1841 .....	5 79	1857 .....	3 87
1842 .....	4 18	1858 .....	3 43
1843 .....	3 27	1859 .....	3 25
1844 .....	3 20	1860 .....	3 40
1845 .....	3 46	1861 .....	3 39
1846 .....	3 90	1862 .....	4 14
1847 .....	3 80	1863 .....	6 06
1848 .....	3 50	1864 .....	8 39
1849 .....	3 62	1865 .....	7 86

In 1869 the average prices of coal at the mines was \$3 20 $\frac{1}{4}$  per ton; in 1870, \$2 45; in 1871, \$2 60 $\frac{1}{3}$ ; in 1872, \$2 14 $\frac{3}{4}$ ; and now, as stated above, it is \$2 35 to \$3 50, or higher than the average for four years. Last August the price was \$1 92 $\frac{3}{10}$ .

## COLLIERIES.

Collieries in their simplest form, as now seen in the Allegheny coal-field, where the strata lie nearly horizontal, and generally in the hills or mountains above the level of the streams, or common water level, employ little or no machinery; but at the deep and extensive mines of the Pennsylvania anthracite fields, and in the older mining districts of Europe these establishments are of immense proportions, employing hundreds of hands and a vast capital. Primitively, the process of digging coal and other minerals consisted in simply removing the surface earth, and quarrying the coal on the outcrops of the beds, and this was continued even to a late day.

The most notable instance of modern surface coal mining was at the old Summit mines of the Lehigh, where the great mammoth bed was uncovered to the extent of 30 acres, and produced 2,000,000 tons of coal up to 1847, when it was abandoned. The great bed which was nearly 70 feet thick at this place formed an anticlinal with the axis near the surface where the quarry was opened. A tree which had grown over this spot and extended its

roots into the coal bed below, having been uprooted by the wind, revealed the coal to a hunter, who reported the discovery, and from this grew the famous Lehigh coal mines.

The following table shows the number and condition of the anthracite collieries of Pennsylvania :

DISTRICTS.	Number collieries . . .	Number shafts . . . . .	Number slopes . . . . .	No. drifts and tunnels,
Schuylkill . . . . .	164	13	141	102
Northumberland . . . . .	33	.....	18	52
Columbia . . . . .	8	.....	7	4
Dauphin . . . . .	4	.....	4	11
Luzerne, east . . . . .	80	46	21	68
Do ... west . . . . .	102	31	43	42
Lehigh district . . . . .	46	1	59	11
Total . . . . .	437	91	293	290



## ANTHRACITE COAL-FIELDS OF PENNSYLVANIA.

The anthracite of Eastern Pennsylvania owes its importance not only to its exceptional qualities, but to the fact that it lies on the north-east border of the great Appalachian coal-field, having before it, to the north and the east, States destitute of coal, but rich and populous, and abounding in valuable ores of iron, which find in the anthracite the only available fuel for smelting them.

The total area of all the anthracite coal-basins is as follows :

	Sq. miles.
1. Southern or Schuylkill Basin and Mine Hill.....	146
2. Shamokin, 50 ; Mahanoy, 41 ; and Lehigh basins, 37.....	128
3. Wyoming and Lackawanna basins.....	198
 Total area of all the anthracite basins.....	 472

It is sometimes difficult to make people believe that all the anthracite or common hard coal of America, which is used everywhere, of which more than 19,000,000 tons are annually mined, and which is sent for use almost all over the Western World, really comes from this one small locality in eastern Pennsylvania. If these regions were all brought together into one body, they would only form a small county, twenty miles wide and a little less than twenty-four miles long. The usual shape and structure of all the several great anthracite tracts of this State are those of long and irregular basins. The depth of the basins depends on the power of the compressing forces which formed them. The thickness of the coal-seams is owing to the local distribution of the vegetable material of which the coal was formed. Where the mammoth bed is found 14, 20, 25 or 30 feet thick, all the coal is mined in that alone if in doing so all the smaller seams shall be destroyed, on the principle that it affords an abundance of coal for our day, and future generations can take care of themselves.

Prof. Rogers reports that the first coal-field possesses an average thickness of 100 feet of coal, and the second and third would measure about 60 feet, and the general average of all the regions together would be about 70 feet, and the separating strata of rock between the several coal-seams vary from 10 to 500 feet thick.

The old Summit Hill mine of the Lehigh Coal and Navigation company was worked in an open quarry of 10 acres in extent, 70 feet in depth, ow-

ing to a doubling together of the strata, the seam being actually 55 feet thick measured at right angles, of which more than 40 feet was of the very best quality of coal. In all, 850,000 tons of coal were thus taken out, so that every available acre of land produced 85,000 tons of excellent coal. This mine is now on fire, and has been burning since the year 1857

The real wonder of this famous Pottsville region is the great Mammoth bed of coal, which is often as much as 30, 40, and in some places even 50 feet in thickness, and which lines the slopes of these bleak, barren hills. Millions of tons of the finest coal have been mined from it above water-level. The mining in the older mining districts is now done by slopes and shafts below water-level.

Both the west and the east ends of this great Schuylkill coal basin terminate in elevated mountain valleys, each with its two mountain rims coalescing, the one high above the Lehigh, at Mauch Chunk, and the other high above the Susquehanna, at Dauphin.

The entire area of the various parts of the Schuylkill coal-field is estimated as follows :

	Length in miles.	Square miles.
Mauch Chunk to Tamaqua.....	14	16
Tamaqua to Pottsville.....	16	36
Pottsville to the forks of the basin.....	14	55
North Fork, or Lykens Valley Prong.....	17	16
South Fork, or Dauphin Prong.....	27	15
Area of Schuylkill basin .....		138
Mine Hill basin.....	13	8
Total area of first coal-field.....		146

## SECOND COAL-FIELD.

The names by which these two large and important fields are commonly known are derived from the two creeks, by which they are almost exclusively watered. The eastern district, south of the dividing ridge, called Locust mountain, is drained by Mahanoy creek, which empties into the Susquehanna river at Port Trevorton, and is called *The Mahanoy Region*. It is 25 miles in length, with a mean breadth of less than two miles, and contains 41 square miles.

Its southern boundary is the Mahanoy and Broad mountain, and on the north it is bounded by the Big or Head mountain. Its western extremity is bounded on the north by the Locust mountain.

This basin is nearly all in Schuylkill county, the west end only being in Northumberland and Columbia counties.

The *Shamokin basin* is drained by the Shamokin creek, which empties in the Susquehanna river at Sunbury, and is the western portion of the Second or Middle coal-field. This field is 20 miles in length, with a mean breadth of  $2\frac{1}{2}$  miles, and its area is 50 square miles.

This with the 41 square miles of the Mahanoy makes the total area of the Middle coal-field 91 square miles besides the small Lehigh basins.

### THE LEHIGH COAL BASINS.

The Lehigh coal-fields consist of seven narrow basins lying contiguous to each other, although small in area, are very productive and important, and afford an excellent quality of coal.

The Lehigh river, between White Haven and Penn Haven, is the eastern boundary of this important region.

The following is Daddow's list of names by which the Lehigh basins are known, their length, width and area in square miles:

	Miles long.	Miles wide.	Square miles.
1. Beaver Meadow .....	11		8 $\frac{1}{4}$
2. Hazleton.....	14		10
3. Big Black Creek.....	12		6
4. Little Black Creek.....	7		2 $\frac{1}{2}$
5. Lower Black Creek.....	10		5
6. Green Mountain.....	7		2 $\frac{1}{4}$
7. M'Cauley's Mountain, and others .....			3
Total area, Lehigh basins .....			37

The area of some of the Lehigh basins is said to have been increased by recent explorations.

The total production of Lehigh coal in the year 1871 was 2,249,356 tons, and since the opening of the trade 42,306,793 tons.

The peculiar importance of this Lehigh region, and the eastern extremity of the southern or Schuylkill field at Mauch Chunk, consists in the valuable qualities of the coal which they produce.

In the most remote parts of our country, in the States on the Mississippi river, on the Pacific coast, in the interior of our far western territories, all through the South, as well as in the more populous regions and large manufacturing cities on the Atlantic slope, Lehigh coal is one of the great necessities of manufacturing. No coal dealer, anywhere in the country, has a stock of coal to supply all his customers, if he has no Lehigh. Its special qualities consist in its large amount of carbon, its purity and its hardness. By passing a strong current of air through it, when ignited, an intense heat can be procured, sufficient to melt cast iron.



Where the genuine Lehigh coal cannot be procured for foundry purposes, the other and softer varieties of anthracite are substituted, and where they are out of reach, coke from bituminous coal is used.

*General Geological Structure of the Third Coal-field.*—The general configuration of the Wyoming basin is a wide and shallow trough, deeper in the middle than at the sides, yet deepening so gradually toward the centre as to be, if we regard the subordinate undulations of the strata, approximately flat.

This prevailing levelness of its bed or floor, notwithstanding the considerable angles of dip, frequently more than 30 deg., is at once apparent when we compare the great width of the valley, four or five miles in its middle district, with the very moderate depth of 1,200 or 1,500 feet, or perhaps 1,800 feet.

*The total production of the Wyoming and Lackawanna valleys, or the Third coal-field, in the year 1871, was 6,481,171 tons, carried by nine railroads and one canal, or 43 per cent of the whole production, which, by Mr. Bannan's statistics, was 14,965,501 tons of anthracite. Since the opening of the trade this region has produced 78,308,841, and all of the regions 219,981,040 tons.*

#### COAL—SEMI-BITUMINOUS.

A line drawn on the map of Pennsylvania and Maryland, through the Blossburg region, in a south-western course, would pass through or near the Broad Top and Cumberland, as well as two other immediate semi-bituminous coal regions at Snow Shoe and Phillipsburg, in Centre county, Pennsylvania, all of which produce the same species of coal.

The production of the semi-bituminous regions in Pennsylvania, in 1871, was as follows:

	Tons.
1. Blossburg, three coal companies.....	815,079
2. M'Intyre, one coal company .....	106,130
3. Towanda, two coal companies.....	378,335
4. Snow Shoe, one coal company.....	82,468
5. Phillipsburg, sixteen coal companies.....	542,896
6. Johnstown, or Cambria iron works, one coal company.....	263,472
7. Cambria county, on Pennsylvania railroad, ten coal companies,	206,792
8. Broad Top, nineteen coal companies.....	319,618
Total.....	2,714,790

# MINERAL STATISTICS.

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James Macfarlane, general agent of coal companies in Tioga and Bradford counties, furnishes the following :

## COAL SENT TO MARKET, 1873, TIOGA COUNTY, PENNSYLVANIA.

	Tons.
Fall Brook coal company.....	312,466
Morris Run coal company.....	357,384
Blossburg coal company .....	321,207
<b>Total, Tioga.....</b>	<b>991,057</b>

## LYCOMING COUNTY.

M'Intyre coal company.....	212,462
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## BRADFORD COUNTY.

Towanda coal company.....	252,329
Fall Creek B coal company.....	85,315
	<b>337,644</b>

**Total of the three counties..... 1,541,163**

As compared with 1872 :

Tioga county, (increase,).....	141,695
Lycoming county, (increase,).....	41,035

	182,730
Bradford county, (decrease,).....	45,198

## BLACKSMITH'S COAL.

In the New York, Philadelphia, Baltimore, Boston, and other Atlantic markets, no other coal is sold or used for blacksmithing but Cumberland, Clearfield and Broad Top ; while in the interior of the State of New York, in Western Canada, or Ontario, and in all the western or north-western States, every blacksmith uses Blossburg coal, which is the generic name by which all this kind of coal from northern Pennsylvania is called. As an instance of the distance to which this valuable fuel is carried, it may be stated that 75,053 tons were shipped in 1871 from Oswego and Buffalo to Canada, and our own western States. Chicago alone took 21,248 tons before the great fire, and had an insufficient supply, much of which was re-

sold and shipped off by railroad westward and north-westward. Some of it was re-sold as far as Omaha, and shipped still farther westward. The blacksmiths of Salt Lake City, Utah, use Blossburg coal, and it is even carried in sacks over the plains, and over the mountains through the gold regions of our western territories, to sharpen the tools of the miner. This is owing to the fact that the western coal does not possess those peculiar qualities required for this business.

All the puddling and heating furnaces from Troy, New York, to Buffalo, use Blossburg coal in very large quantities. But the largest demand for Blossburg and other semi-bituminous coal is for the *generating of steam* in locomotive and stationary boilers.

The following is a summary of the total joint production of coal from the Blossburg, M'Intyre and Towanda coal regions for 1870 and 1871 :

COAL REGIONS.	1871.	1870.	Increase.
Blossburg region, 3 companies.....	815,079	733,035	82,044
M'Intyre, 1 company.....	106,130	17,808	88,322
Towanda, 2 companies.....	378,335	273,335	105,000
Total tons.....	1,299,544	1,024,178	275,366

The coal produced in 1871 was used as follows :

For locomotive purposes.....	619,054
By rolling mills.....	242,142
By Onondaga salt company.....	170,142
By stationary engines, steamboats, &c.....	168,285
By blacksmiths.....	99,852
Total as above.....	<u>1,299,544</u>

The total production of these three districts since the mines were opened is 6,453,222 tons, of which 5,881,750 tons were from the Blossburg region proper.



SEMI-BITUMINOUS—BROAD TOP MOUNTAIN.

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The Broad Top mountain coal region is strictly and geologically an independent or isolated coal region, situated forty miles east of the declivity of the Allegheny mountains, which form the eastern boundary of the first bituminous coal basin. Parts of it are situated in Bedford, Huntingdon and Fulton counties, and the outlet to market for its coal is by the Huntingdon and Broad Top Mountain railroad to Huntingdon, thirty-six miles, and from thence to Philadelphia, two hundred and three miles. Trough Creek valley, Plank Cabin valley and Wells' valley, in Huntingdon and Bedford counties, form a trench around the Broad Top mountain, with its coal basin, and Brush Creek valley is attached to the ring at its southern end. This ring or circular valley is a deep depression worn out of the red shale by the Juniata river and other water courses, one thousand feet deep below the crest of the enclosing mountains. It is usually but one or two miles wide, but at its northern end forms a triangular opening six miles wide at its base and eighteen miles long, rising to the top of the knob of Terrace mountain, overlooking the county of Huntingdon. In the centre of this ring rises the mountain mass of the Broad Top, containing eighty square miles of coal measures, disposed in six parallel basins and crowned with a central peak, the "Broad Top," rivaling in height the summit of the Allegheny mountain, forty miles distant. Near the summit of this peak remains a small, round patch of the Pittsburg or Westmoreland gas coal bed, a few acres in extent; the sole relic of vast deposit of this famous bed remaining in all the country between Cumberland, in Maryland, on the south, Blairsville, in Indiana county, on the west, and Donaldson, in the Pottsville basin of the anthracite coal region, on the east.

The Huntingdon and Broad Top Mountain railroad was completed in 1856, when the first coal was sent to market. The total production of the region has been 3,942,005 tons in sixteen years; that of 1871 was 319,625 tons, and the average has been about 300,000 tons per annum for the past twelve years. The specific gravity of Broad Top coal is 1,330, and of Pittsburg coal 1,285.

## BROAD TOP SEMI-BITUMINOUS COAL TRADE.

*Statement exhibiting the amount of coal mined and sent to market in 1873, from the collieries of the Broad Top semi-bituminous coal region, with present facilities and estimated capacity for 1874, furnished by John Fulton, mining engineer.*

NAME OF COL- LIERY.	NAME OF PROPRIETOR.	NAME OF OPERATOR.	Tons net, sent to market in 1873.	No. of miners at colliery.....	Number of other workmen.....	No. of miners houses.....	Galler's or rooms in working order	Average capacity in tons per day,	Estimated value of colliery im- provements....
Coalmont.....	Chandler & Peabody	John Whitehead & Co.	10,392	28	3	11	7	40	\$80,000
Cumberland ..	Huntington & Broad Top R. R. Co.	do. do.	8,909	6	2	5	15	80	12,000
Crawford ..	do. do.	do. do.	48,676	95	30	8	4	30	15,000
Powelton.....	Powelton Coal and Iron Co.	Berwind & Bradley	7,084			50	100	280	150,000
BarnetPlane ..	do. do.	do. do.							30,000
Barnet.....	Orbison, Dorris & Co.	R. U. Jacob & Co.	33,803	56	13	10	37	150	30,000
Dudley Slope..	Wood & Bacon.	J. M. Bacon	4,164	22	6	23	18	65	30,000
Blair's.....	David Blair.	do. do.	25,967	37	10	13	27	130	20,000
Howe.....	do. do.	do. do.	9,139	14	1		15	50	5,000
Union.....	J. Hartman.	do. do.				14	8	30	20,000
Broad Top.....	Semi-Anthracite Coal Co.	J. F. Mears	239				2		3,000
Mooredale.....	do. do.	do. do.	29,046	40	5	36	30	150	20,000
Fisher's.....	Fishers & Miller	do. do.	24,248	50	6	17	45	150	25,000
Carbon.....	Rathmell Wilson.	J. F. Mears	19,877	53	6	5	31	150	25,000
Cook.....	Broad Top Improvement Co.	P. Annorman	4,356	16	3	23	8	50	20,000
Mount Equity.	Riddlesburg Coal and Iron Co.	Kemble Coal and Iron Co.	11,781	35	8	17	30	120	30,000
Duval Shaft ..	Rathmell Wilson.	do. do.	42,221			37	15	100	50,000
Cunard.....	R. B. Wigton.	do. do.	23,259	46	9	31	69	200	50,000
Mount Eagle ..	Reed, Wilson & Co.	W. H. Piper	22,208	51	10	14	26	130	20,000
Scott Shaft....	Hon. John Scott.	William Scott	12,986	20	4	10	20	100	45,000
Edge Hill.....	Rathmell Wilson.	Dr. Jenkins	2,741	28	3	28	55	200	40,000
Delaware.....	do. do.	do. do.					16	80	15,000
Alexis.....	Six Mile Run Coal Co.	Andrew Gleason	9,144	25	3	15	27	100	40,000
	Cumberl'd Coal over H. & B. T. R. R.	do. do.	123,932						
Total .....			474,178	622	122	367	605	2,385	775,000
Increase for the year .....			155,806						

## BITUMINOUS COAL REGIONS OF WESTERN PENNSYLVANIA.

## THE LOWER COAL-MEASURES.

The Pennsylvania bituminous coal-field may be considered as a great and complex basin, for such it really is. Its boundary on the east or south-east is very well defined by the abrupt declivity of the Allegheny mountain. West and north-west of this long straight rim of this vast basin, lies this coal-field, which is only the north-eastern extremity of the trough-shaped plain or table-land which ranges thence uninterruptedly south-westward to the centre of Alabama. The courses of the streams show that the general surface ascends gradually toward the north where the Allegheny river drains it throughout. It runs through a deep and comparatively narrow trench in the coal-basin.

Prof. Rogers accounts for its changes of course, from south-east to south-west, by the action of two great currents of eroding water, when the continent was elevated, the main one flowing south-westward from the Allegheny mountain, and the other south-eastward from the region of the lakes and cutting valleys at right angles to each other.

From the summit of the Allegheny, the country declines both ways, but it is only with what lies west of it that we are concerned.

This district, west of the Allegheny water-shed, is not a simple slope, but is a great, irregular trough, the southern portion being, in fact, a series of parallel troughs, caused by the ridges of Negro mountain, Laurel Hill, and Chestnut Ridge, rising up, sometimes 1,200 feet high, within the south-eastern part of the coal-field, the Conemaugh and Youghiogheny rivers crossing them, and cutting gaps down through them to their base. Around the north-western borders of the basin, where the waters emptying into the Allegheny separate from those flowing into Lake Erie, the elevation is about 1,200 feet.

The northern part of the basin is also geologically undulated into six coal-basins. The north-western tract of the coal-field, the fifth and sixth basins, gradually subsides in level toward the south-west, and the strata also decline in the same direction, but at a somewhat faster rate than the surface does, and hence the south-western portion of the State contains a greater thickness of coal-measures than the north-eastern. Indeed, in Potter, M'Kean, Warren and parts of the counties south of them, the table land is almost entirely destitute of the coal-producing parts of the formation, and is only overspread by the conglomerate and other older rocks known to underlie any workable coal bed.



## THE PITTSBURG SEAM.

It is seldom that a seam of coal is so well defined and so easily followed as this Pittsburg seam. It may be observed at the following elevation above the Monongahela in descending the stream at different places, viz: Morgantown, West Virginia, 180 feet; at Greensboro', thirteen miles below, and two miles below the Pennsylvania line, 200 feet. Below Brownsville it dips nearly into the river, but rises again regularly as we go down the river, till at Monongahela City it is 150 feet; at Elizabethtown 200 feet and at Pittsburg 300 feet. Below Greensboro' the elevations are approximate only but above that place they are actual measurements.

The seams of coal of the lower coal-measures have been reached in boring for salt water at Pittsburg, Greensboro' and at various other places.

The depth of the first two seams at Pittsburg was 140 and 180 feet below the Ohio river.

The Monongahela river, for about 95 miles from the Virginia State line to Pittsburg, possesses every important advantage for the production of coal. It is, therefore, not surprising that the annual tonnage of this district is larger than that of any other bituminous coal region of the United States. The coal is of an excellent quality for iron making, for generating steam, for gas and for domestic purposes. It is found in unlimited quantities in the hills on both sides of the river, at short distances only from the water, the coal being often run from the mouths of the mines by slides or incline planes into the boats. The seam is of a good, workable thickness, four and a half feet and upward, of pure coal. The facilities for mining are excellent, and the transportation being by water, is cheaper and for longer distances than that of any other coal region in the United States. The Monongahela river is made navigable, at all seasons of the year, by dams, with locks large enough for steamboats and the largest coal boats, each carrying 800 tons, and barges carrying 440 tons. A large portion of the Monongahela river coal is run down the Ohio and Mississippi to market, the distance from Pittsburg to New Orleans by river being 2,096 miles. There were 1,847,609 tons of coal shipped in the year 1871 by the Monongahela navigation alone.

## MERCER COUNTY BLOCK COAL.

Beneath the conglomerate we find a small group of coal measures, which comes in under the great conglomerate in the country, between French creek and the Ohio line, containing a valuable seam.

This is the Sharon coal, in Mercer county. It is a species of semi-cannel coal, with a slaty structure and a dull, jet-black lustre, with a thickness of from three to four feet. It seems an extraordinary circumstance that the most important coal region in north-western Pennsylvania and eastern Ohio, as respects the present production and the quality of its coal, should be almost outside of what was regarded as the coal region and below the coal-measures. The so-called splint-seam, producing block coal, belongs to a group of coal strata which, although appertaining to the true coal formation, were long ago recognized as being beneath the main body of the conglomerate.

Though the bed is frequently a mixture of coal and slate, as its name implies, it produces the most valuable coal in the United States, and it embraces one and sometimes two important beds.

One of the most important uses to which mineral coal has been applied is the smelting of iron or the manufacture of pig or cast iron from the ore. The qualities required for this purpose are, sufficient hardness in the mechanical structure of the coal to bear the pressure of a charge and the high temperature required in the blast furnace, the absence of all the melting or caking property, which would stop the draught in the stack, freedom from sulphur, in order to produce iron of good quality, and sufficient heating power. There were nearly 500,000 tons of block coal produced in Mercer county in 1871, and twenty-three blast furnaces, in the district above mentioned, were running on this coal in that year, with others in the course of construction. There are about the same number of furnaces on the Ohio side of the line.

The principal locality where this peculiar coal is produced is along the line of a small branch of the Erie and Pittsburg railroad, at Sharpsburg, seventy-five miles south of Erie. The mines are in Hickory township, and in the vicinity of Sharon, Wheatland and Middlesex, in the south-western part of Mercer county, and the area is quite limited.

## THE CONNELLSVILLE COKE REGION

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Throughout the first trough or basin west of the Chestnut Ridge, which may now be properly called the Connellsville basin, the superb Pittsburg bed, the great coke-seam, occupies the middle of the field, and appears along two parallel lines of out-crop which range from half a mile to two and a half miles asunder, that being the width of the basin.

In some neighborhoods the bed as it dips into the middle of the trough descends to a considerable depth below the lowest water course, while in other places the bottom of the basin which it forms does not reach the water level. This is the now celebrated Connellsville region.

Connellsville coke has become very celebrated not only about Pittsburg but throughout the western States, where it is extensively used for foundry purposes in melting pig iron, selling in competition with Lehigh coal. It is used in blast furnaces for smelting iron from the ore, and is sometimes mixed with western coals.

It is also an excellent fuel for locomotive use. Its freedom from sulphur has given this coke the representation of being the best known. The Pittsburg and Connellsville railroad is a large transporter of the coal and coke of this region, while a portion of it produced near the mouth of the Youghiogheny finds its way to market by the Monongahela river slack-water navigation.

The South-western Pennsylvania railroad which leaves the Pennsylvania Central at Greensburg, and passes through Connellsville and Uniontown, and thence in course of construction to the Cheat river is designed to penetrate this coke region, and will afford increased facilities for the shipment of coal and coke.

Connellsville coal weighs eighty pounds to a bushel, and when properly coked a hundred bushels of coal produce one hundred and twenty-five bushels of coke, and the coke weighs forty pounds to a bushel; that is, a given quantity of the coal gains one-quarter in bulk, and loses three-eighths of its weight, or one hundred pounds of coal makes sixty-two and a half pounds of coke.

At the Dunbar furnace seventy bushels of coke produced from two gross tons of coal, smelt a ton of pig iron, but the Pittsburg furnaces use eighty to eighty-five bushels, the difference being owing, probably, in part at least, to the kinds of ore and limestone used.

I regret not to have been able to procure approximate statistics of this coke trade. The manufacturers, dealers, and even coke exchange are all too busy to furnish statistics.



## THE COUNTIES WITH AND WITHOUT COAL.

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Of the sixty-six counties in Pennsylvania, the following twenty-five contain no coal whatever, viz: Philadelphia, Delaware, Chester, Montgomery, Bucks, Northampton, Lehigh, Berks, Lebanon, Lancaster, York, Adams, Franklin, Cumberland, Mifflin, Juniata, Perry, Snyder, Union, Montour, Monroe, Pike, Wayne, Susquehanna and Erie. They are all situated in the south-eastern part of the State, except Erie, which is in the north-western corner. The anthracite coal of Pennsylvania is situated principally in the four counties of Dauphin, Schuylkill, Carbon and Luzerne; with smaller quantities, the borders of the basins in Northumberland and Columbia counties, and there is a semi-anthracite coal in Sullivan and a little in Wyoming county.

Six counties contain detached fields of semi-bituminous coal, Bradford, Lycoming, Tioga, Huntingdon, Bedford and Fulton. The following twenty-seven counties in the western and north-western part of the State contain bituminous coal, a portion of which along the eastern margin of the field is semi-bituminous, viz: Somerset, Fayette, Greene, Washington, Westmoreland, Cambria, Indiana, Armstrong, Allegheny, Beaver, Lawrence, Butler, Clarion, Jefferson, Clearfield, Blair, Centre, Clinton, Cameron, Elk, Forest, Venango, Mercer, Crawford, Warren, M'Kean, and Potter, or in all forty-one coal producing counties. Of so vast a coal region with a very intricate structure, only a general account can be given. Its total area is 12,222 square miles, besides eighty miles in Broad Top, and 472 in the anthracite fields, making a total of 12,774 square miles of coal of all kinds in Pennsylvania.

The geological report of Prof. Rogers, in three volumes, is the basis of our knowledge of the coal-fields of Pennsylvania. Fuller and detailed reports upon special localities have since added largely thereto. The latest work which appears to be a full and accurate compend, "The Coal Regions of America," in one volume, by James Macfarlane, has been the source from which we have condensed our sketches.

## DISTANCES TO MARKET.

The following are the distances from a portion of the American coal-fields, to the different tidewater markets :

Points.	By	Miles.
From Pottsville to New York.....	Canal.....	226
From Pottsville to New York.....	Rail and water.....	196
From Pottsville to Philadelphia.....	Canal.....	106
From Pottsville to Philadelphia.....	Rail.....	93
From Mauch Chunk to New York.....	Lehigh canal.....	173
From Mauch Chunk to New York.....	Morris canal.....	147
From Mauch Chunk to New York.....	Rail.....	126
From Mauch Chunk to Philadelphia.....	Canal.....	124
From Mauch Chunk to Philadelphia.....	Rail.....	89
From Carbondale to New York.....	Rail and canal.....	208
From Scranton to New York.....	Rail.....	143
From Wilkesbarre to New York.....	Rail.....	192
From Wilkesbarre to Philadelphia.....	Rail and canal.....	168
From Wilkesbarre to Mauch Chunk.....	Rail.....	55
From Wilkesbarre to Baltimore.....	Rail and canal.....	260
From Wilkesbarre to Baltimore.....	Canal.....	246
From Shamokin to Baltimore.....	Rail and canal.....	200
From Shamokin to Baltimore.....	Northern Central railroad..	148
From Cumberland to Baltimore.....	Rail.....	206
From Cumberland to Georgetown.....	Canal.....	184
From Cumberland to Alexandria.....	Canal.....	191
From Broad Top to Philadelphia.....	Rail.....	212

## PENNSYLVANIA COAL TRADE

## OFFICIAL STATISTICS.

*Of the anthracite coal trade, and also of the bituminous coal trade moved toward the seaboard for the year 1873.*

In 1872 the quantity of anthracite coal sent to market was 18,932,265 tons; and the estimated quantities consumed in the coal regions were put at 3,100,000, making the whole quantity mined 22,032,265 tons as follows :

	Sent to market. Official.	Home consump'n. Estimated.	Total product.
Schuylkill .....	4,135,908	875,000	5,010,908
Northumberland.....	1,221,327	170,000	1,391,327
Columbia .....	319,220	15,000	344,220
Dauphin .....	450,328	30,000	480,328
Wyoming.....	9,194,808	1,500,000	10,694,808
Lehigh.....	3,610,674	500,000	4,110,674
	18,932,265	3,100,000	22,032,265

The whole quantity mined and sent to market, together with the estimated quantity consumed in the coal regions, in 1873, we give as follows :

	Sent to market. Official.	Home consump'n. Estimated.	Total product.
Schuylkill .....	4,252,043	880,000	5,132,043
Northumberland.....	1,234,070	170,000	1,404,070
Columbia .....	358,741	25,000	383,741
Dauphin .....	449,915	30,000	479,915
Wyoming.....	10,047,241	1,675,000	11,722,241
Lehigh.....	3,243,168	463,000	3,706,168
	19,585,178	3,243,000	22,828,178

The total supply of anthracite coal sent to market in 1872 and 1873, sums up as follows :

	Tons.
In 1873.....	19,585,178
In 1872.....	18,932,265
Increase in 1873.....	652,913



The whole production, including the consumption in the regions, foots up as follow :

	Tons.
In 1873.....	22,828,178
In 1872.....	22,032,265
Increase in production in 1873.....	795,913

The whole supply of bituminous coal embraced in our tables, and moved towards the seaboard was :

	Tons.
In 1873.....	5,515,784
In 1872.....	5,231,998
Increase in 1873.....	283,786

The above increase of 283,786 tons bituminous coal, added to the increase of 652,913 tons anthracite, makes the total increase for the year 936,699 tons.

The following table gives the official quantity of coal mined in the different coal regions, with the production of each separated and credited to each region. The quantity under the head of the Schuylkill region, embraces all the coal sent from Schuylkill county, and also the quantity mined in Columbia and Northumberland counties sent to market via the Schuylkill Valley; and all the coal from the Schuylkill and Wyoming regions, sent to market via the Lehigh Valley is also reported and credited to the proper regions.

OFFICIAL TABULAR STATEMENT.

*Of the whole product of anthracite coal, and that portion of bituminous coal moved toward the seaboard, in 1873, compared with 1872.*

SCHUYLKILL REGION.	1872. Tons.	1873. Tons.	Increase. Tons.	Decrease.. Tons.
Reading railroad .....	4,092,540	*4,340,321	247,781	.....
Schuylkill canal.....	838,191	743,796	.....	94,395
Lehigh and Mahanoy .....	370,215	493,342	123,127	.....
	5,300,946	5,577,459	.....	.....
Less Shamokin reported double.....	194,495	368,303	.....	173,908
	5,106,451	5,209,156	370,908	268,203
		5,106,451	268,203	.....
Increase in 1873.....	.....	102,705	102,705	.....

\*The total coal tonnage of the Philadelphia and Reading railroad in 1873 was 6,546,553, including 665,223 tons anthracite and 323,354 tons bituminous coal received at Harrisburg and other points.

# MINERAL STATISTICS.

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## OFFICIAL TABULAR STATEMENT—Continued.

LEHIGH REGION.	1872. Tons.	1873. Tons.	Increase. Tons.	Decrease. Tons.
Lehigh Valley railroad.....	3,492,608	*3,734,797	242,189	.....
Lehigh and Susquehanna railroad.....	1,727,611	†1,959,111	231,500	.....
Lehigh canal.....	767,094	736,252	.....	30,842
	5,987,313	6,430,160	.....	.....
Less Wyoming and Schuylkill.....	2,376,639	3,186,992	.....	810,353
	3,610,674	3,243,168	473,689	841,195
	3,243,168	.....	.....	473,689
Decrease in 1873.....	367,506	.....	.....	367,506
WYOMING REGION.				
Pennsylvania canal company.....	321,311	295,399	.....	25,912
Pennsylvania coal company.....	1,213,478	1,239,214	25,736	.....
Lackawanna and Western R. R., north..	846,107	†986,619	140,512	.....
Lackawanna and Western R. R., south..	1,994,478	‡2,149,737	155,259	.....
Delaware and Hudson company.....	2,516,565	2,472,449	.....	44,116
Lackawanna and Bloomsburg.....	296,445	210,173	.....	86,272
Via Lehigh.....	2,006,424	2,693,650	687,226	.....
	9,194,808	10,047,241	1,008,733	156,300
	.....	9,194,808	156,300	.....
Increase in 1873.....	.....	852,433	852,433	.....
SHAMOKIN REGION.....				
	569,689	635,383	65,694	.....
	.....	569,689	.....	.....
Increase in 1873.....	.....	65,694	65,694	.....
LYKENS VALLEY REGION.....				
	450,308	449,915	.....	413
	449,915	.....	.....	.....
Decrease in 1873.....	413	.....	.....	413
Total anthracite.....	18,932,265	19,585,178	.....	.....
	.....	18,932,265	.....	.....
Increase in 1873.....	.....	652,913	.....	.....
BITUMINOUS.				
Broad Top.....	318,372	474,178	155,806	.....
Penn'a Central and Phila. and Erie.....	2,067,524	§1,946,771	.....	120,753
Chesapeake and Ohio canal.....	816,103	778,802	.....	37,301
Baltimore and Ohio railroad.....	1,517,347	1,745,429	228,082	.....
Via Pennsylvania Extension.....	22,021	114,589	92,568	.....
	4,741,367	5,059,769	476,456	158,054
Imported coal.....	490,631	456,015	.....	34,616
	5,231,998	5,515,784	476,456	192,670
Anthracite.....	18,932,265	19,585,178	192,670	.....
Total all kinds.....	24,164,263	25,100,962	283,786	.....
	.....	24,164,263	.....	.....
Total increase in 1873.....	.....	936,699	.....	.....

\* The total coal tonnage of the Lehigh Valley railroad in 1873, was 4,144,340 tons, including 28,026 tons of bituminous coal.

† The total coal tonnage of the Lehigh and Susquehanna railroad was, in 1873, 3,089,698 tons. The balance is reported by other companies.

‡ Net tons—all the others are gross tons.

§ The total coal tonnage of the Pennsylvania railroad was 4,527,501 tons, of which 1,173,960 were anthracite and 3,353,541 bituminous.

The supply of anthracite coal sent to market in 1872 and 1873 was furnished as follows :

	1872.	1873.	Increase.	Decrease.
Schuylkill.....	4, 135, 908	4, 252, 043	116, 135	.....
Northumberland.....	1, 221, 327	1, 234, 070	12, 743	.....
Columbia.....	319, 220	358, 741	39, 521	.....
Lykens Valley.....	450, 328	449, 915	.....	413
Wyoming.....	9, 194, 808	10, 047, 241	852, 433	.....
Lehigh.....	3, 610, 674	3, 243, 168	.....	367, 506
	18, 932, 265	19, 585, 178	1, 020, 832	367, 919
		18, 932, 065	367, 919	
		652, 913	652, 913	

Below we give the quantities of coal sent to market since 1860, from the three principal regions, the Schuylkill, the Wyoming, and the Lehigh. The coal credited to the Lehigh is the quantity mined in what is termed the Lehigh district. The Schuylkill embraces all the coal sent to market from Schuylkill county, and also that mined in Northumberland and Columbia counties sent to market via the Schuylkill Valley :

Year.	Schuylkill.	Wyoming.	Lehigh.
1860.....	3, 270, 516	2, 941, 817	1, 821, 774
1861.....	2, 607, 489	3, 055, 140	1, 738, 377
1862.....	2, 890, 598	1, 145, 770	1, 351, 054
1863.....	3, 443, 265	3, 759, 610	1, 984, 713
1864.....	3, 642, 218	3, 960, 836	2, 054, 699
1865.....	3, 735, 802	3, 256, 658	1, 822, 535
1866.....	4, 633, 487	3, 736, 616	2, 128, 867
1867.....	4, 334, 820	5, 328, 322	2, 062, 446
1868.....	4, 414, 356	5, 990, 813	2, 507, 582
1869.....	4, 748, 960	6, 068, 365	1, 929, 083
1870.....	3, 720, 103	7, 559, 902	1, 040, 303
1871.....	5, 124, 780	6, 481, 171	2, 249, 356
1872.....	5, 107, 451	9, 191, 171	3, 610, 674
1873.....	5, 209, 156	10, 047, 291	3, 243, 168

### THE CONSUMPTION OF COAL IN THE UNITED STATES.

Taking the official returns of the production of anthracite coal in the United States in 1873, together with the official returns of the bituminous coal produced and sent towards the seaboard, and from former data, estimating the balance, we give the following as the total coal production in 1873 :



Anthracite sent to market.....	19,585,178
Anthracite consumed in regions.....	3,243,000
Total production of anthracite.....	22,828,118
Bituminous coal sent towards seaboard, embraced in our tables.....	6,085,222
Estimated production of bituminous coal not embraced in our tables.....	16,500,000
Total production in 1873.....	45,413,340
Foreign coal imported.....	456,015
	45,869,355
Exported.....	584,633
Total supply for consumption in 1873.....	45,284,722

It will be seen by the above figures that the quantity of anthracite and bituminous coal produced were nearly equal, as follows :

Total anthracite.....	22,828,118
Total bituminous.....	22,585,222
Total.....	45,413,340

In 1865 we commenced estimating the quantity of bituminous coal produced in the United States from the regions not embraced in our table, and we have put down the production of coal in this country, as follows, since 1864 :

	Tons.
1864.....	22,500,000
1865.....	24,400,000
1866.....	28,855,918
1867.....	28,361,847
1868.....	31,479,114
1869.....	33,761,010
1870.....	36,622,131
1871.....	37,861,415
1872.....	42,749,243
1873.....	45,413,340

This shows an increase of upwards of 100 per cent. in the production of coal in the United States within the last ten years, and if the same ratio of increase should continue for the ensuing ten years, the consumption in 1883 would reach 90,000,000 tons.

The investments in the coal business to produce 45,000,000 tons of coal annually, and to carry the same to market, is immense, amounting in the aggregate to not less than probably five hundred millions of dollars, and to

produce this additional quantity, and to transport it to market in the ensuing ten years, the reader can form some idea of the additional capital that will be required to furnish that quantity for consumption.

### SCHUYLKILL CANAL.

Tonnage and distribution of coal shipped via Schuylkill canal from December 1, 1872, to November 30, 1873, inclusive :

	Tons.
Schuylkill Haven.....	302
Auburn.....	7
Port Clinton.....	10
Hamburg.....	3,185
Mohrsville and Shoemakersville.....	3,849
Leesport and Duncan Canal.....	13,010
Felix and Kissinger's Dam.....	3,403
Reading.....	33,223
Yost's Landing.....	337
Birdsboro'.....	305
Monocacy.....	8,835
Pottstown Landing.....	421
Springville and Lawrenceville.....	1,429
Royer's Ford.....	7,786
Black Rock.....	328
Phoenixville.....	1,567
Brower's Landing.....	7
Norristown.....	534
Conshohocken.....	4,006
Spring Mills.....	18,707
Manayunk.....	25,764
Salem.....	1,242
New Castle and Newport.....	5,673
Brandywine and creek.....	8,990
Wilmington.....	26,325
Marcus Hook.....	1,077
Chester and Chester Creek.....	14,406
Gloucester.....	5,820
Darby and Darby creek.....	1,013
Philadelphia and vicinity.....	259,104
New York and vicinity.....	303,126
Total.....	<u>743,796</u>

Of the above quantity, 117,016 tons were delivered on the line short of Philadelphia; 54,550 tons were sent south of Philadelphia, and 303,126 tons east of Philadelphia.

### PHILADELPHIA AND READING RAILROAD COMPANY.

*Points of supply and distribution of anthracite and bituminous coal on the Philadelphia and Reading railroad and branches for the year ending November 30, 1873:*

Amount of coal received from various lateral railroads in coal region:

	Tons.	Tons.
Schuylkill Valley railroad.....	50,843	
Mill Creek.....	170,746	
Mahanoy and Shamokin.....	1,520,972	
<hr/>		
Total at Port Carbon.....		1,742,561
Mount Carbon branch at Mount Carbon.....		145,646
Mine Hill and Schuylkill Haven road at Schuylkill Haven....		1,443,135
Lebanon and Tremont branch at Pinegrove.....		366,007
Little Schuylkill railroad at Tamaqua.....		642,972
<hr/>		
		4,340,321
Received at Harrisburg and Dauphin.....	222,006	
Received at Allentown and Alburtis.....	8,876	
Received at Oreland and Willow Street wharf....	80,082	
Summit, Catawissa and Rupert.....	344,259	
<hr/>		
		655,223
<hr/>		
		4,995,544
Bituminous received at Harrisburg and Belmont.....		323,354
<hr/>		
Total as per detailed statement below.....		5,318,898
Coal passing over laterals for shipment by canal...	735,074	
Coal shipped West via N. C. R. R. and Williams-		
port branch.....	301,838	
Coal consumed on laterals.....	190,771	
<hr/>		
		1,227,65
<hr/>		
Total of all, tons 2,240 lbs.....		6,546,553



## THE COAL TRADE OF THE LINE.

The trade of the line between Pottsville and Philadelphia, and on the Lebanon Valley railroad, &c., was as follows for the last twenty-three years :

Years.	Railroad.	Canal.	Total.
1850	166,992	40,871	207,836
1851	199,650	112,697	312,836
1852	189,661	132,550	322,211
1853	238,328	155,750	394,078
1854	283,212	160,940	441,160
1855	294,385	187,476	481,861
1856	329,365	191,139	520,499
1857	313,178	198,799	511,977
1858	235,577	205,589	441,169
1859	341,601	213,173	554,774
1860	385,860	223,017	608,887
1861	278,647	156,673	435,320
1862	416,856	129,060	545,916
1863	548,755	122,834	671,589
1864	634,074	114,364	748,408
1865	659,376	87,250	746,029
1866	836,598	174,407	1,010,905
1867	935,694	178,132	1,107,826
1868	597,903	123,014	730,917
1869	923,504	113,549	1,037,053
1870	1,072,400	116,764	1,189,164
1871	1,128,227	94,813	1,223,040
1872	1,357,208	114,213	1,471,431
1873	1,670,189	117,016	1,787,205

Showing an increase of 315,774 tons over 1872. The increase in 1872 over 1871 was 248,391 tons, making an increase of 564,165 tons in the consumption on the line in two years under the policy inaugurated by President Gowen, in protecting the line trade.

## LEHIGH VALLEY RAILROAD.

The coal in 1872 and 1873 was received from the following sources :

From.	1872. Tons.	1873. Tons.
Wyoming region	508,933	881,629
Hazleton region	2,192,877	2,123,098
Upper Lehigh region	3,089	2,975
Beaver Meadow region	756,564	629,571
Mahanoy region	385,971	503,803
Mauch Chunk region	2,683	3,266
Total	3,850,118	4,144,340

## LEHIGH CANAL COAL TRADE.

The following is the quantity of coal transported through the Lehigh canal during the year 1873, and the distribution of the same, and also the points from which it was received :

	Tons.
Received from Mauch Chunk .....	235,486
Received from Beaver Meadow.....	131,535
Received from Mahanoy.....	20,891
Received from Hazleton.....	199,891
Received from Upper Lehigh.....	29,907
Received from Wyoming.....	118,542
Total.....	736,252

The above coal was distributed as follows :

Consumed on line of Lehigh canal.....	81,395
Passed into Morris canal to tidal points.....	2,614
Passed into Morris canal to local points.....	28,233
Passed into Delaware and Raritan to tidal points.....	257,798
Passed into Delaware and Raritan to local points.....	13,566
Consumed on line of Delaware Division canal.....	39,662
Passed through to Bristol and Philadelphia.....	312,984
Total.....	736,252

## LEHIGH AND SUSQUEHANNA RAILROAD.

The coal tonnage of the Lehigh and Susquehanna railroad for 1873, was derived from the following sources :

	Tons.
Wyoming region.....	1,812,021
Upper Lehigh.....	200,301
Beaver Meadow .....	346,752
Hazleton .....	207,723
Mauch Chunk.....	522,821
Total.....	3,089,698
Total in 1872.....	2,527,069
	562,629

## BELVIDERE AND DELAWARE RAILROAD COAL TONNAGE.

The following is the quantity of coal transported over this road, received from the Lehigh region in the following years :

Years.	Through.	Way.	Total.
In 1873.....	786,240	369,142	1,155,332
In 1872.....	877,614	87,939	965,553
In 1871.....	563,093	69,334	632,427
In 1870.....	632,667	81,910	714,277
In 1869.....	455,684	72,539	528,223
In 1868.....	312,228	19,065	331,292
In 1867.....	269,738	18,586	288,321
In 1866.....	174,508	13,554	188,062
In 1865.....	202,781	11,535	214,345
In 1864.....	161,268	13,095	174,323
In 1863.....			110,494
In 1862.....			129,452
In 1861.....			145,907
In 1860.....			146,308
In 1859.....			135,205
In 1858.....			99,000
In 1857.....			123,248

Of the above 1,155,332 tons of coal transported, 944,819 tons were derived from the Lehigh regions, and 210,513 tons from the Wyoming region. Of the through coal 327,465 tons were shipped at Coal Port, and 458,775 at South Amboy. The balance, including 71,649 tons used by the company, was consumed on the line of the road.

## LATERAL ROADS IN SCHUYLKILL COUNTY.

The following was the coal tonnage of the lateral railroads in Schuylkill county in 1872 and 1873 :

	1872.	1873.	Increase.	Decrease.
Mine Hill and Schuylkill Haven.....	1,730,623	2,030,513	299,890	
Mahanoy and Broad Mountain.....	1,815,384	1,726,590		88,794
Mill Creek.....	327,714	232,055		95,659
Schuylkill Valley.....	131,595	110,973		20,622
Mount Carbon.....	186,051	230,602	44,551	
Little Schuylkill.....	835,420	732,867		102,553
Lerberry Creek.....	180,357	243,391	63,034	
Good Spring.....	152,115	144,852		7,263
	5,327,847	5,580,227		
Lehigh and Mahanoy.....	386,972	503,802		
Total.....	5,714,819	6,083,029		
Union railroad.....	332,452	388,240	55,791	

This shows an increase of 369,210 tons over the lateral transportation of 1872.



## MORRIS CANAL COAL TRADE.

This company has been leased and is now worked by the Lehigh Valley railroad company. The following is the annual tonnage of this canal since the year 1845 :

Year.	LEHIGH COAL FROM			Scranton coal.	Total.
	Canal.	Railroad.	Total.		
	Tons.	Tons.	Tons.	Tons.	
1845	12,567		12,567		12,567
1846	41,152		41,142		41,142
1847	61,951		61,951		61,951
1848	82,159		82,159		82,159
1849	103,482		103,482		103,482
1850	98,100		98,100		98,100
1851	137,237		137,237		137,237
1852	180,189		180,189		180,189
1853	222,582		222,582		222,582
1854	267,864		267,864		267,864
1855	290,730		290,730		290,730
1856	284,828	808	285,636	17,764	303,400
1857	227,652	13,047	240,699	43,599	284,298
1858	281,949	5,350	287,299	55,426	342,725
1859	255,405	5,780	261,185	89,146	350,331
1860	276,947		276,947	127,517	404,464
1861	272,616	1,401	274,017	140,922	414,939
1862	106,431	45,738	152,169	172,128	324,297
1863	208,397	48,234	256,631	145,815	402,446
1864	194,097	37,644	231,745	151,122	382,866
1865	217,814	74,171	291,984	124,204	416,189
1866	205,351	112,790	318,141	141,034	459,175
1867	171,266	107,206	278,472	146,359	424,831
1868	181,828	106,981	268,809	78,736	347,545
1869	78,787	134,504	213,291	67,896	281,187
1870	69,991	205,467	275,458	84,385	359,843
1871	44,821	201,429	246,260	69,350	315,610
1872	29,146	242,445	271,591	70,392	341,983
1873	30,592	522,371	242,763	55,785	298,749
	5,789,868	1,555,366	6,315,234	1,781,582	8,126,816

Of the above quantity 156,532 tons reached tide, and 142,216 tons were consumed on the line.

## LYKENS VALLEY COAL TRADE.

Shipments from Summit Branch railroad company and Lykens Valley coal company, for the year ending November 30, 1873 :

	Tons.
Summit Branch railroad company, Williamstown colliery.....	301,326
Lykens Valley coal company, Big Lick colliery.....	107,585
Lykens Valley coal company, Short Mountain colliery.....	50,248
Total .....	459,160

Shipped as follows :

By canal south from Millersburg.....	54,762
By rail east.....	219,814
By rail south.....	175,338
By local sales.....	9,245
Total.....	<u>459,160</u>

The heaviest shipment ever made from a single colliery in a year, in this country, was the product from the Williamstown colliery, which it will be seen reached 301,326 tons. In 1872 the shipment from the same colliery was 269,774 tons, giving an increase in 1873 of 31,552 tons.

Shipments from Mineral railroad and mining company, Shamokin, Pa. :

	Tons.
Cameron colliery.....	101,576
Luke Fiddler colliery.....	64,635
Hickory Swamp colliery.....	78,451
Hickory Ridge colliery.....	2,715
Total.....	<u>247,377</u>

Shipped as follows :

By canal south from Sunbury.....	24,814
By railroad south.....	134,737
By railroad east.....	58,057
By railroad west.....	29,769
Total.....	<u>247,377</u>

These shipments are from November 30, 1872, to November 30, 1873.

### NORTHERN CENTRAL RAILROAD.

The following is the coal tonnage of the Northern Central railroad south, for the following years, which has been furnished us by Mr. S. Little, Auditor :

	Way.	Baltimore.	Total.
1866.....	177,954	100,110	278,146
1867.....	304,567	148,810	453,275
1868.....	455,345	175,334	630,679
1869.....	414,665	146,534	561,198
1870.....	534,858	173,948	708,805
1871.....			792,513
1872.....	518,622	279,534	798,056
1873.....	567,631	199,442	767,073

The coal was received from the following points in 1872 and 1873 :

	1872.	1873.
Lykens Valley.....	381,624	389,924
Shamokin.....	108,544	137,741
Lackawanna and Bloomsburg railroad .....	307,888	239,408
	798,056	767,073
	767,073	
Decrease in 1873.....	30,983	

In addition to the above there were 28,376 tons of bituminous coal transported over the road, received from the Pennsylvania railroad, making the coal tonnage for the year, 795,449 tons.

#### LEHIGH AND MAHANoy RAILROAD.

The following is the quantity of coal sent over this road by the different operators, from December 1, 1872, to November 30, 1873 :

	Tons.
Pine Creek .....	16,069
West Buck Mountain.....	4,338
Malvern, (Coxe, Bedford & Co.,).....	17,682
Coplay, (Lentz, Bowman & Co.,).....	79,696
Glendon, (J. B. Boylan,).....	39,380
Primrose, (old and New).....	67,212
Lehigh Colliery, (Hill & Harris,).....	5,969
M'Neal Nos. 1 and 2.....	50,717
M'Neal No. 3.....	26,744
M'Neal No. 4, (late West Lehigh,).....	11,940
Philadelphia Coal Co., (Shenandoah,).....	68,532
Philadelphia Coal Co., (Lehigh Colliery,).....	66,809
Middle Lehigh.....	35,354
Beaver Run.....	2,544
Black Diamond.....	10,457
Other shippers.....	354
Total.....	503,802

The above shipments are all from Schuylkill county except 10,460 tons.



## NORTH PENNSYLVANIA RAILROAD COAL TRADE.

Quantity transported over this road from the Lehigh region in the following years:

	Way. Tons.	Through. Tons.	Total.
In 1858.....			73,124
In 1859.....			80,432
In 1860.....			91,327
In 1861.....			88,389
In 1862.....			103,947
In 1863.....			113,680
In 1864.....			123,475
In 1865.....			129,695
In 1866.....			141,841
In 1867.....			140,827
In 1868.....			218,614
In 1869.....	55,606	100,207	225,846
In 1870.....	94,890	334,267	426,158
In 1871.....	119,037	108,402	227,440
In 1872.....	170,009	170,986	340,995
In 1873.....	176,615	250,836	427,451

Increase 1873, 86,456 tons.

## PENNSYLVANIA RAILROAD.

The following is a statement of coal tonnage forwarded to all points by Pennsylvania railroad during 1873:

From	Anthracite. Tons.	Bituminous. Tons.
West Philadelphia.....	28,772	
Columbia, (received by canal).....	29,570	
Rockville.....	427,348	
Marysville.....	381,519	
Aqueduct, (received by canal).....	15,242	
Sunbury.....	177,669	
Other points.....	113,840	
Huntingdon and Broad Top.....		257,010
Cumberland.....		124,307
Bald Eagle Valley.....		3,514
Snow Shoe.....		76,042
Tyrone and Clearfield.....		592,860
Allegheny.....		220,409
West Pennsylvania railroad.....		259,340
South-West Pennsylvania railroad.....		255,355
Gas coal.....		878,944
Pittsburg coal.....		685,611
Other points.....		149
Totals.....	1,173,960	3,353,541
		1,173,960
Total coal tonnage in 1873.....		4,527,501

We did not have the whole coal tonnage of the road in 1872 and cannot therefore give the increase in 1873 over 1872, but presume it will reach a million of tons of both kinds.

## BLOSSBURG, TOWANDA AND RALSTON COAL TRADE.

The following is the quantity of coal sent to market annually up to the present time :

Years.	Blossburg. Tons.	Towanda. Tons.	Ralston. Tons.
1840 .....	4,235		
1841 .....	25,966		
1842 .....	13,164		
1843 .....	6,268		
1844 .....	14,234		
1845 .....	29,836		
1846 .....	16,509		
1847 .....	29,807		
1848 .....	33,763		
1849 .....	32,095		
1850 .....	23,161		
1851 .....	25,000		
1852 .....	20,000		
1853 .....	45,507		
1854 .....	70,214		
1855 .....	73,204		
1856 .....	70,669	2,295	
1857 .....	94,314	6,265	
1858 .....	41,894	17,560	
1859 .....	48,593	30,143	
1860 .....	76,918	27,718	
1861 .....	112,712	40,835	
1862 .....	179,334	52,779	
1863 .....	235,843	54,535	
1864 .....	384,977	62,058	
1865 .....	394,642	73,167	
1866 .....	411,759	99,453	
1867 .....	481,318	74,739	
1868 .....	602,328	73,665	
1869 .....	715,094	180,610	
1870 .....	733,035	271,335	17,808
1871 .....	815,079	378,335	106,130
1872 .....	849,262	382,842	171,427
1873 .....	991,057	337,664	212,462
Increase in 1873 .....	1,722,069	2,168,038	507,827
	141,695	*33,567	41,035

\* Decrease.

The total supply from the above three regions was as follows :

	Tons.
In 1873 .....	1,541,763
In 1872 .....	1,403,530
Increase in 1873 .....	138,233

The total supply since the opening of the trade foots up 10,397,914 tons.

The coal sent to market from Blossburg in 1873, was mined as follows :

	Tons.
Fall Brook coal company .....	312,466
Morris Run coal company .....	357,384
Blossburg coal company .....	321,207
Total .....	991,057

Since the commencement of the trade the coal was furnished from the following points :

Total tons from Old Blossburg mines 1840 to 1859.....	533,745
Total tons from Fall Brook, 1860 to 1873.....	2,497,760
Total tons from Morris Run, 1853 to 1873.....	3,517,726
Total tons from Blossburg company, 1868 to 1873.....	1,172,838
Total.....	<u>7,722,069</u>

The coal from the Towanda region was furnished in 1873 as follows :

	Tons.
Towanda coal company.....	252,329
Fall Brook bituminous coal company.....	85,315
Total.....	<u>337,644</u>

From the commencement the supply has been as follows :

	Tons.
Barclay coal company, 1856 to 1867.....	430,650
Towanda coal company, 1855 to 1873.....	1,332,661
Fall Brook bituminous coal company, 1865 to 1873.....	484,707
Total.....	<u>2,168,038</u>

The Blossburg, M'Intyre (Ralston) and Towanda coal produced in 1873 has been used as follows :

In locomotives on railroads.....	887,927
In rolling mills.....	286,958
In manufacturing salt.....	149,789
In blacksmithing.....	124,356
In steam and other purposes.....	89,133
Total.....	<u>1,541,163</u>

The above bituminous regions produced, as will be seen by the figures, over and above a half million tons of coal in 1873. A cubic yard of coal in the ground will produce one ton. If this one and a half millions of tons had been all mined from a gangway six feet wide in a seam four and a half feet thick, the gangway or tunnel thus formed, produced one ton per foot, would have measured 284 miles in length, or nearly from Corning to New York city ; or calculated by the acre it would require all the coal in 207 acres of land of the thickness mentioned.



### COAL TONNAGE OF THE CENTRAL RAILROAD OF NEW JERSEY.

The following is a statement showing the number of tons of coal transported over the Central railroad of New Jersey, during the year 1873 :

Years.	Lehigh. Tons.	Lackawanna. Tons.	Total. Tons.
1856 .....	33,325	98,670	131,994
1857 .....	84,881	209,950	294,791
1858 .....	122,923	417,726	540,549
1859 .....	180,054	461,430	641,487
1860 .....	263,885	590,862	854,647
1861 .....	254,367	568,869	823,235
1862 .....	311,296	502,375	816,571
1863 .....	435,729	613,594	1,049,686
1864 .....	474,221	675,743	1,149,963
1865 .....	599,619	494,687	1,004,304
1866 .....	511,076	779,173	1,290,249
1867 .....	513,383	854,520	1,369,903
1868 .....	765,657	853,189	1,618,846
1869 .....	733,495	822,567	1,556,062
1870 .....	997,504	1,054,680	2,052,184
1871 .....	1,244,998	632,066	1,877,064
1872 .....	1,538,590	689,626	2,228,217
1873 .....	1,980,619	485,460	2,466,069
	10,953,602	10,806,134	21,763,135

Tons.

Received from Lehigh .....	1,980,619
Received from Lackawanna .....	485,600
Total .....	2,466,219

### MORRIS AND ESSEX RAILROAD.

The following is the annual tonnage of this road from its commencement in 1867 :

	Way.	Through.	Total.
In 1867 .....	99,559	133,662	243,321
In 1868 .....	146,820	300,519	446,039
In 1869 .....	192,216	360,300	552,282
In 1870 .....	191,209	655,292	846,500
In 1871 .....	202,052	652,954	855,006
In 1872 .....	137,708	794,648	932,356
In 1873 .....	313,414	1,352,385	1,665,799

Increase in 1873, 733,442 tons.

## NORTHUMBERLAND COUNTY COAL TRADE.

The following is the quantity of coal mined and sent to market from Northumberland county in 1873, by the different operators:

Collieries.	Operators.	Tonnage. 1873.
Mineral Railroad and Mining Co.....	Cameron.....	103,969
Mineral Railroad and Mining Co.....	Hickory Swamp.....	82,572
Mineral Railroad and Mining Co.....	Luke Fidler.....	67,381
Mineral Railroad and Mining Co.....	Hickory Ridge.....	2,786
Isaac May & Co.....	Burnside.....	77,726
May, Audenried & Co.....	Buck Ridge.....	71,422
Wm. Montelius.....	Stuartville.....	79,104
G. W. Johns & Bro.....	Monitor.....	77,929
Alex. Fulton.....	Henry Clay.....	77,879
A. A. Heim & Goodwill.....	Bear Valley.....	67,700
A. A. Heim & Goodwill.....	Geo. Fales.....	8,572
T. Baumgardner & Co.....	Reliance.....	74,639
Patterson, L. & Co.....	Big Mountain.....	70,227
Excelsior Coal Mining Co.....	Excelsior.....	63,779
Phila. and Reading Coal and Iron Co....	Trevorton.....	60,762
Phila. and Reading Coal and Iron Co....	Locust Spring.....	1,618
Phila. and Reading Coal and Iron Co....	Helfelstein.....	606
Douty & Baumgardner.....	Ben Franklin.....	39,683
Burton Bro. & Co.....	Coal Ridge.....	34,800
Enterprise Coal Co.....	Enterprise.....	12,399
Enterprise Coal Co.....	Mar. Franklin.....	21,104
Guiterman & Gorman.....	Greenbank.....	29,182
Guiterman & Gorman.....	Brady.....	129
Wm. Brown.....	Dan. Webster.....	14,348
Wm. Brown.....	Lambert.....	11,205
Wm. Brown.....	Franklin.....	2,587
Thos. Morton & Bro.....	Morton.....	19,433
Weaver & Martin.....	Shamokin.....	18,097
J. Langdon & Co.....	Hickory Ridge.....	15,331
Schwenk & Co.....	Black Diamond.....	15,926
Smith & Keiser.....	Lancaster.....	543
Reese & Bros.....	Marshall.....	2,877
Greeber, Kemple & Co.....	Locust Gap.....	2,144
Tillot & Bro.....	Royal Oak.....	700
Total in 1872.....		1,234,070
Increase in 1873.....		1,221,327
		12,743

Of the above quantity of coal, 670,443 tons were sent east via Philadelphia and Reading railroad, 10,460 via Lehigh Valley, 567,006 sent west; and 3,766 tons via Trevorton and Susquehanna railroad. There were also 23,072 tons of bituminous coal transported over the Shamokin Branch of the Northern Central railroad, in 1873, which passed over the Lehigh Valley railroad to market.

THE COAL PRODUCT OF THE UNITED STATES IN THE CENSUS YEAR 1869-1870—TONS OF 2,000 POUNDS.  
*Compiled from the census of 1870, by the Pottsville Miners' Journal, and revised by the Census Office.*

STATES.	Number of counties.	Number of collieries.	Number of engines..	Power of engines..	Number of men.....	Number of boys.....	Capital in- vested ...	Wages paid .....	Value of materials furnished,	Tons pro- duced....	Value of product..	Average value at colliery..
Pennsylvania.	8	229	829	48,809	43,943	9,078	\$50,936,785	\$22,982,813	\$3,596,440	15,650,275	\$38,436,745	\$2 53
<i>Anthracite.</i> .....	26	359	69	1,851	16,517	334	16,974,918	8,995,495	604,691	7,798,518	13,921,069	1 77
<i>Bituminous</i> .....												
Total for Pennsylvania .....	34	588	898	50,660	60,460	9,412	67,911,703	31,978,308	4,201,131	23,448,793	52,357,814	.....
Illinois.....	37	322	92	2,645	6,166	135	4,286,575	3,192,977	399,331	2,624,163	6,097,432	2 33
Ohio.....	28	307	76	3,363	7,246	321	5,891,813	3,381,108	252,447	2,527,285	5,482,952	2 16
Maryland.....	2	22	7	431	2,672	55	23,891,600	1,473,325	166,479	1,819,824	2,403,208	1 33
Missouri.....	18	56	33	2,308	1,878	.....	2,587,250	1,270,804	316,082	621,930	2,011,820	3 24
West Virginia .....	12	41	10	177	1,043	97	1,434,800	619,376	48,564	608,878	1,035,862	1 70
Indiana.....	13	46	22	771	1,299	70	554,442	664,592	61,890	437,870	988,621	2 26
Iowa.....	18	96	5	145	1,341	13	618,332	580,157	73,102	268,487	874,334	3 32
Kentucky.....	15	30	4	125	676	38	717,950	278,411	27,828	150,582	446,795	2 97
Tennessee.....	6	11	2	51	399	20	313,784	187,383	15,945	133,418	330,498	2 47
Virginia.....	4	6	15	1,297	642	.....	779,200	168,120	20,312	61,803	226,114	3 66
Michigan.....	5	20	.....	82	85	8	106,500	58,400	2,601	32,938	114,278	3 47
<i>Anthracite</i> .....	2	3	3	.....	252	.....	106,430	89,191	7,550	28,150	104,200	3 70
<i>Bituminous</i> .....	2	17	2	.....	85	5	80,000	33,000	4,100	*14,000	59,000	4 21
Rhode Island.....	2	2	.....	140	70	.....	26,000	33,970	351	11,000	39,000	3 54
Alabama.....	2	2	.....	.....	57	.....	.....	.....	.....	.....	.....	.....
Nebraska.....	1	3	.....	.....	6	2	850	2,950	1,450	1,435	8,550	6 00
Wyoming.....	1	1	1	20	150	15	250,000	225,000	48,000	50,000	800,000	16 00
Washington.....	1	1	2	80	80	.....	300,000	70,869	13,394	17,844	207,064	6 00
Utah.....	2	6	1	15	25	.....	44,800	2,550	5,985	5,800	14,950	2 58
Colorado.....	2	3	.....	.....	16	.....	36,000	9,000	2,410	4,500	16,500	3 66
Total.....	238	1,566	1,173	62,310	84,563	10,191	110,008,029	44,316,491	5,668,955	32,863,690	73,524,992	.....

\*Anthracite.



## RECAPITULATION.

Capital invested in collieries in the United States.....	\$110,008,029
Wages paid in 1869 .....	44,316,491
Supplies furnished at mines in 1869 .....	5,668,955
Production of coal in 1869—Anthracite .....	15,664,275
Production of coal in 1869—Bituminous.....	17,199,415
Total production in 1869.....	<u>32,863,690</u>
Value of the same at mine.....	\$73,524,992
Number of men employed .....	84,563
Number of boys employed.....	<u>10,191</u>
	94,754
Number of steam engines used in mining.....	1,173
Horse power of engines used in mining.....	62,310
Number of collieries worked.....	1,566
Number of counties in which collieries were worked.....	<u>238</u>

## COAL PRODUCTION OF THE WORLD.

We give the following as the production of coal in all countries up to the latest dates :

Years.	Countries.	Production.
1873.....	United States.....	45,413,340
1873.....	Nova Scotia.....	1,051,467
1872.....	Great Britain.....	123,386,758
1872.....	France, (estimated).....	15,000,000
1872.....	Belgium.....	13,773,176
1870.....	Prussia.....	23,816,238
1872.....	Austria, (estimated).....	7,000,000
1867*.....	Russia.....	259,921
1869*.....	Spain.....	593,033
1868*.....	India.....	547,971
1869*.....	New South Wales.....	919,522
1862*.....	Poland.....	112,500
All other countries, (estimated,) .....		2,000,000
Total consumption of the world .....		<u>233,373,926</u>

\*McFarlane.

Of which Great Britain produces more than one-half.

## IRON PRODUCTION.

## CONDITION OF THE IRON TRADE.

In consequence of the panic which swept over the country a year ago, the iron industry of Pennsylvania is at present very greatly depressed, and in view of the great reduction in the price of iron abroad an increase of duty is loudly called for to infuse new life into this important industry and to enable our manufacturers to successfully compete with foreign rivals, and to fully re-gain and maintain supremacy.

That the marvelous growth of the iron industry of our country has been mainly the result of the policy of protection which the people through their representatives have adopted and enforced cannot be denied—but what the people want is ample protection against foreign interests. With prices beaten down to the lowest possible cost of production; with many thousands of iron workers and miners out of employment, and thousands of others working at reduced wages; with idle furnaces, and rolling mills, and foundries in every iron district and manufacturing city of the country; with large stocks of unsold iron in almost every iron market, it is a proper time to consider whether it is wise longer to encourage the importation of foreign iron by continuing the reduction of duties which Congress has twice authorized during the past four years. This reduction it has been abundantly proved did not reduce the cost of iron to consumers, while the government lost the revenue on imported iron to the amount of the reduction. If the reduction is continued, encouragement is thus given to the foreign ironmaker to send to our shores, as has been the case within the past twelve months, many ship loads of iron which could have been as cheaply made in our own country. But for the heavy importations of foreign iron after the demand for American iron had commenced to slacken, there would be more general activity in the American iron trade to-day, and employers and employees would be in better heart.

The aggregate value of our importations of iron and steel, and manufactures thereof, during the twelve months which ended on June 30 last, was \$59,000,000. We now see that these importations were not needed, and have done immense harm to the home iron trade and all dependent upon it.

An increase of the duty on pig iron and upon other classes of iron and steel, would be a wise measure of relief for Congress to enact immediately after it assembles.

# PRODUCTION OF PIG IRON IN THE UNITED STATES IN 1872 AND 1873.

COMPLETE RETURNS FROM EVERY STATE.

We present herewith full and accurate statistics of the production of pig iron in the United States in 1872 and 1873, derived from returns made directly to the office of the American Iron and Steel Association by the makers and by the regular correspondents of the association. This exhibit is the most complete of the kind that has ever been given to the country, and its preparation alone has cost the association thousands of dollars. We briefly summarize the leading facts set forth in the detailed statements which follow, premising them by remarking that our tables do not include abandoned furnaces:

Whole number of stacks, December 31, 1871.....	571
Whole number of stacks built in 1872.....	41
Whole number of stacks, December 31, 1872.....	612
Whole number of stacks built in 1873 .....	50
Whole number of stacks, December 31, 1873.....	662
Whole number of stacks in blast, January 1, 1874.....	410
Whole number of stacks out of blast, January 1, 1874.....	252
Whole number of stacks completed in first six months of 1874.....	11
Whole number of finished stacks, July 1, 1874.....	673
Whole number of stacks building, July 1, 1874 .....	53
Whole number of stacks projected, July 1, 1874 .....	61
Total production in 1872, tons of 2,000 pounds .....	2,854,558
Total production in 1873, tons of 2,000 pounds .....	2,868,278
Estimated annual capacity of all finished stacks, net tons.....	4,500,000
Number of States having furnaces.....	25
Number of States making pig iron in 1872 .....	21
Number of States making pig iron in 1873 .....	22



# MINERAL STATISTICS.

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## PRODUCTION OF PIG IRON IN 1872 AND 1873 BY STATES.

STATES.	No. of stacks in blast Jan. 1, 1874.	No. of stacks built in 1872.....	No. of stacks built in 1873.....	Whole No. stacks in 1872.....	Whole No. of stacks in 1873.....	Whole No. of stacks July 1, 1874.	No. of stacks building in 1874..	No. of stacks projected in 1874...	Make in 1872—Tons of 2,000 lbs.	Make in 1873—Tons of 2,000 lbs.
Maine.....	1			1	1	1				780
Vermont.....	1			2	2	2			2,000	3,100
Massachusetts.....	5			6	6	6			17,070	21,136
Connecticut.....	8			10	10	10			22,700	26,977
New York.....	43	2	4	49	53	53	4	3	291,155	296,818
New Jersey.....	6	2	1	12	13	13	4	1	103,858	102,341
Pennsylvania.....	166	19	14	248	262	263	18	16	1,401,497	1,389,573
Maryland.....	17			22	22	23		2	63,031	55,986
Virginia.....	13	2	3	32	35	36	4	1	21,445	26,475
North Carolina.....	3		1	7	8	8	1	2	1,073	1,432
South Carolina.....				8	8	8				
Georgia.....	6		2	6	8	9	3	1	2,945	7,501
Alabama.....	7		3	8	11	12	4	3	12,512	22,283
Texas.....				1	1	2			619	280
West Virginia.....	5	1	1	5	6	6	3	3	20,796	23,056
Kentucky.....	16			25	25	27		2	67,396	69,889
Tennessee.....	11	1	1	19	20	20	2	7	42,454	43,134
Ohio.....	65	6	5	83	88	88	8	9	399,743	406,029
Indiana.....		2		8	8	8			39,221	22,486
Illinois.....	1		2	8	10	10	2		78,627	55,796
Michigan.....	19	4	6	27	33	34		6	100,222	123,506
Wisconsin.....	7	1	3	10	13	14			65,036	74,148
Minnesota.....						1				
Missouri.....	10	1	4	14	18	18		5	101,158	85,552
Oregon.....				1	1	1				
Total.....	410	41	50	612	662	673	53	61	2,854,558	2,868,278

## MINERAL STATISTICS.

## CHARCOAL.

STATES.	No. of stacks in blast, Jan. 1, 1874,	No. of stacks built in 1872.....	No. of stacks built in 1873.....	Whole No. of stacks in 1872....	Whole No. of stacks in 1873....	Whole No. of stacks, July 1, 1874,	No. of stacks building in 1874..	No. of stacks projected in 1874..	Make in 1872—Tons of 2,000 lbs.	Make in 1873—Tons of 2,000 lbs.
Maine.....	1			1	1	1				780
Vermont.....	1			2	2	2			2,000	3,100
Massachusetts.....	4			5	5	5			12,820	15,704
Connecticut.....	8			10	10	10			22,700	26,977
New York.....	14	1	2	15	17	17			19,812	29,329
Pennsylvania.....	28		1	38	39	39			45,033	45,854
Maryland.....	12			14	14	14			29,044	30,315
Virginia.....	11	2	2	30	32	33	2	1	21,445	20,075
North Carolina.....	3		1	7	8	8	1	1	1,073	1,432
South Carolina.....				8	8	8				
Georgia.....	6		2	6	8	9	3	1	2,945	7,501
Alabama.....	7		3	8	11	12	4	3	12,512	22,283
Texas.....				1	1	2			619	280
West Virginia.....	3		1	3	4	4			950	1,950
Kentucky.....	14			22	22	23		2	39,699	42,219
Tennessee.....	10			17	17	17		3	34,094	34,532
Ohio:										
Hanging Rock.....	33			33	33	33			87,440	92,365
Miscellaneous.....	2			4	4	4			8,182	8,133
Michigan.....	18	2	6	22	28	29		6	86,616	113,475
Wisconsin.....	6	1	2	8	10	11			27,790	38,880
Minnesota.....						1				
Missouri.....	8		2	7	9	9		2	45,589	39,536
Oregon.....				1	1	1				
Total.....	189	6	22	262	284	292	10	19	500,363	574,720

## MINERAL STATISTICS.

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## BITUMINOUS COAL AND COKE.

STATES.	No. of stacks in blast, Jan. 1, 1874,	No. of stacks built in 1872.....	No. of stacks built in 1873.....	Whole No. of stacks in 1872.....	Whole No. of stacks in 1873.....	Whole No. of stacks, July 1, 1874,	No. of stacks building in 1874....	No. of stacks projected in 1874..	Make in 1872—Tons of 2,000 lbs.	Make in 1873—Tons of 2,000 lbs.
Pennsylvania:										
Shenango Valley.....	15	5	2	29	31	31	2	1	160, 188	160, 831
Allegheny county.....	11	4		11	11	11	1	1	110, 599	158, 789
Miscellaneous.....	18		1	31	32	32	3	2	117, 224	111, 014
Maryland.....	1			4	4	4		2	12, 079	5, 264
Virginia.....							1			
North Carolina.....								1		
West Virginia.....	2	1		2	2	2	3	3	19, 846	21, 106
Kentucky.....	2			3	3	4	4		27, 697	27, 670
Tennessee.....	1	1	1	2	3	3	2	4	8, 360	8, 602
Ohio:										
Hanging Rock.....	5	1	1	6	7	7	5	2	23, 169	28, 601
Mahoning Valley.....	14	2	1	27	28	28			200, 785	157, 888
Miscellaneous.....	11	3	3	13	16	16	3	7	80, 167	119, 042
Indiana.....		2		8	8	8			39, 221	32, 486
Illinois.....	1		2	8	10	10	2		78, 627	55, 796
Michigan.....				3	3	3			13, 382	795
Missouri.....	2	1	2	7	9	9		3	55, 569	46, 016
Total.....	83	20	13	154	167	168	22	26	946, 913	933, 900

## ANTHRACITE.

STATES.	No. of stacks in blast, Jan. 1, 1874,	No. of stacks built in 1872.....	No. of stacks built in 1873.....	Whole No. of stacks in 1872.....	Whole No. of stacks in 1873.....	Whole No. of stacks, July 1, 1874,	No. of stacks building in 1874....	No. of stacks projected in 1874..	Make in 1872—Tons of 2,000 lbs....	Make in 1873—Tons of 2,000 lbs....
Massachusetts.....	1			1	1	1			4, 250	5, 432
New York.....	29	1	2	34	36	36	4	3	271, 343	267, 489
New Jersey.....	6	2	1	12	13	13	4	1	103, 858	102, 341
Pennsylvania:										
Lehigh.....	30	3	3	44	47	47	6		449, 663	389, 969
Schuylkill.....	26	3	3	37	40	41	4	4	232, 225	236, 409
U. Susquehanna,	14	3		25	25	25	1	4	127, 260	129, 304
L. Susquehanna,	24	1	4	33	37	37	1	4	159, 305	157, 403
Maryland.....	4			4	4	5			21, 908	20, 407
Virginia.....	1			1	1	1				4, 000
Total.....	135	13	13	191	204	206	20	16	1, 369, 812	1, 312, 754



## MINERAL STATISTICS.

## ANTHRACITE COAL AND COKE.

STATES.	No. of stacks in blast, Jan. 1, 1874,	No. of stacks built in 1872.....	No. of stacks built in 1873.....	Whole No. of stacks in 1872.....	Whole No. of stacks in 1873.....	Whole No. of stacks, July 1, 1874,	No. of stacks building in 1874.....	No. of stacks projected in 1874....	Make in 1872—Tons of 2,000 lbs...	Make in 1873—Tons of 2,000 lbs...
Wisconsin .....	1	1	1	2	3	3	.....	.....	37,246	35,268
Michigan .....	1	1	.....	1	1	1	.....	.....	.....	8,736
Total .....	2	1	1	3	4	4	.....	.....	37,246	44,004

## PEAT AND CHARCOAL.

Michigan.....	1	1	1	1	.....	224	500
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## CHARCOAL AND BITUMINOUS COAL.

Virginia.....	1	1	1	2	2	1	.....
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## RECAPITULATION.

	No. of stacks in blast, Jan. 1, 1874,	No. of stacks built in 1872.....	No. of stacks built in 1873.....	Whole No. of stacks in 1872.....	Whole No. of stacks in 1873.....	Whole No. of stacks, July 1, 1874,	No. of stacks building in 1874.....	No. of stacks projected in 1874....	Make in 1872—Tons of 2,000 lbs...	Make in 1873—Tons of 2,000 lbs...
Charcoal .....	189	6	22	262	284	292	10	19	500,363	574,720
Bituminous coal and coke .....	83	20	13	154	167	168	22	26	946,913	933,909
Anthracite .....	135	13	13	191	204	206	20	16	1,369,812	1,312,754
Anthracite coal and coke .....	2	1	1	3	4	4	.....	.....	37,246	44,004
Peat and charcoal.....	.....	1	.....	1	1	1	.....	.....	224	500
Charcoal and bituminous coal .....	1	.....	1	1	2	2	1	.....	.....	2,400
Total .....	410	41	50	612	662	673	53	61	2,854,558	2,868,278

Pennsylvania, with 262 stacks, makes very nearly one-half of all the pig iron made in the country. Ohio comes next, making one-seventh of the whole product with 88 stacks. New York, with 53 stacks, makes over one-tenth of the whole product. These three States and New Jersey make more than three-fourths of the total product. Five western "prairie" States, Indiana, Illinois, Michigan, Wisconsin and Missouri, made thirteen and one-half per cent. of all the pig iron produced in 1872, and twelve and one-half per cent. of all made in 1873. It is a singular fact that South Carolina has eight charcoal furnaces, and that not one of them was in blast in 1872 or 1873. The lack of capital to operate them and the need of repairs are assigned as the reasons for their long suspension. Fuel and ore of an excellent quality are abundant in their vicinity, and it is scarcely possible that they will all remain much longer out of blast. Two other southern States, Alabama and Georgia, are making rapid progress in the manufacture of pig iron, for which they possess truly wonderful facilities.

The production of charcoal pig iron increased nearly 75,000 tons in 1873 over the product of 1872, while there was a decrease in the production of both bituminous and anthracite pig iron. In each year named the quantity of anthracite pig iron produced was nearly one-half of the total product. The average annual product of the furnaces of the country, in net tons, is as follows: Charcoal, 2,024 tons; bituminous coal and coke, 5,592 tons; anthracite, 6,435 tons.

There never having been any record kept of the quantity of pig iron on hand and unsold in this country, from year to year, it is obviously impossible to ascertain accurately the consumption of pig iron in any given year, but a very close approximation can be made by adding the production in that year to the quantity imported. Observing this method, we have the following results for 1872 and 1873:

Home production of pig iron in 1872, net tons.....	2,854,558
Pig iron imported in 1872, net tons.....	295,967
Total consumption of pig iron in 1872, net tons.....	3,150,525
Home production of pig iron in 1873, net tons.....	2,868,278
Pig iron imported in 1873, net tons.....	154,780
Total consumption of pig iron in 1873, net tons.....	<u>3,023,058</u>

In 1872 and 1873 our exports of pig iron to all countries (principally to Canada) were as follows: In 1872, 26,380 cwts.; in 1873, 180,436 cwts. A year ago much was said in public journals of alleged shipments of pig and bar iron to Great Britain, but the most diligent inquiry fails to show that such shipments were ever made, although, as has heretofore been remarked, it is not improbable that English and Scotch founders will yet require large quantities of our charcoal iron for car-wheel purposes. This

want, however, will not be created until the American method of making car-wheels becomes more popular in Great Britain than it now is. The British car-wheel, as at present constructed, is not composed, in whole or in part, of charcoal pig iron.

Appended is a table showing the production of the various kinds of pig iron in the United States from 1854 to 1873, both years inclusive. It is compiled from statistics procured by this association. Prior to 1854 no agency existed for the collection of the statistics of the iron trade, but in 1855 this association was organized, and since then it has regularly collected and published these statistics. All that is definitely known of the progress of the iron industry in this country prior to 1854, is embraced in a statement prepared by the Hon. Henry C. Carey, in 1849, and this statement we also append.

PRODUCTION OF PIG IRON FROM 1854 TO 1873.

Years.	Anthracite.	Charcoal.	Bituminous coal and coke.	Total.
1854.....	339,435	342,298	54,485	736,218
1855.....	381,866	339,922	62,390	784,178
1856.....	443,113	370,470	69,554	883,137
1857.....	390,385	330,321	77,451	798,157
1858.....	361,430	285,313	58,351	705,094
1859.....	471,745	284,041	84,841	840,627
1860.....	519,211	278,331	122,228	919,770
1861.....	409,229	195,278	127,037	731,544
1862.....	470,315	186,660	130,687	787,662
1863.....	577,638	212,005	157,961	947,604
1864.....	684,018	241,853	210,125	1,135,996
1865.....	479,558	262,342	189,682	931,582
1866.....	749,367	332,580	268,396	1,350,343
1867.....	798,638	344,341	318,647	1,461,626
1868.....	893,000	370,000	340,000	1,603,000
1869.....	971,150	392,150	553,341	1,916,641
1870.....	930,000	365,000	570,000	1,865,000
1871.....	956,608	385,000	570,000	1,912,608
1872.....	1,369,812	*500,587	†984,159	2,854,558
1873.....	1,312,754	‡577,620	§977,904	2,868,278

MR. CAREY'S PIG IRON STATISTICS.

In 1810 the whole number of furnaces in the Union was 153, yielding 54,000 tons of metal, equal to 16 pounds per head of the population.

In 1821 the manufacture was in a state of ruin.

In 1828 the product had reached 130,000 tons, having little more than doubled in eighteen years.

In 1829 it was 142,000. Increase in one year, nearly ten per cent.

\* Includes 224 tons of peat pig iron.

† Includes 37,246 tons of mixed anthracite and coke pig iron.

‡ Includes 500 tons of mixed peat and charcoal pig iron, and 2,400 tons of mixed charcoal and bituminous coal pig iron.

§ Includes 44,004 tons of mixed anthracite and coke pig iron.



In 1830 it was 165,000. Increase in two years, more than twenty-five per cent.

In 1831 it was 191,000. Increase in three years, about fifty per cent.

In 1832 it was 200,000, giving an increase in three years of above sixty per cent.

In 1840 the quantity given by the census was 286,000, but a committee of the Home League, in New York, made it 347,700 tons. Taking the medium of the two, it would give about 315,000 tons, being an increase in eight years of fifty per cent.

In 1842 a large portion of the furnaces were closed, and the product had fallen to probably little more than 200,000, but certainly less than 230,000 tons.

In 1846 it was estimated by the Secretary of the Treasury at 765,000 tons, having trebled in four years.

In 1847 it was supposed to have reached the amount of not less than 800,000 tons.

In 1848 it became stationary.

In 1849, many furnaces being already closed, the production of the present year cannot be estimated above 650,000 tons; but from the accumulation of stock and the difficulty of selling it, it is obvious that the diminution will be greater.

In the twenty years ended with 1873 the growth of the pig iron industry of the United States as compared with that of the United Kingdom of Great Britain was as follows. The ton used in the statistics of the United Kingdom is the gross ton of 2,240 pounds; that used in the statistics of the United States is the net ton of 2,000 pounds.

Year.	U. King. Tons.	U. States. Tons.	Year.	U. King. Tons.	U. States. Tons.
1854.....	3,069,838	736,218	1864.....	4,767,901	1,135,996
1855.....	3,218,151	784,178	1865.....	4,819,254	931,582
1856.....	3,586,377	883,137	1866.....	4,523,897	1,350,343
1857.....	3,659,477	798,157	1867.....	4,761,023	1,461,626
1858.....	3,456,064	705,094	1868.....	4,970,206	1,603,000
1859.....	3,712,904	840,627	1869.....	5,445,757	1,916,641
1860.....	3,826,752	919,770	1870.....	5,963,515	1,865,000
1861.....	3,712,396	731,544	1871.....	6,627,179	1,912,608
1862.....	3,943,469	787,662	1872.....	6,741,929	2,854,558
1863.....	4,510,640	947,604	1873.....	6,850,000	2,868,278

The value of the pig iron product for any year can be approximately ascertained by multiplying the average market value throughout the year of each kind of iron by the year's product, and adding the results thus obtained. In this manner we have carefully calculated the value of the pig iron manufactured in this country during the years 1872 and 1873, and find it to be as follows:

Value of 2,854,558 net tons of pig iron produced in 1872.... \$132,649,621

Value of 2,868,278 net tons of pig iron produced in 1873.... 118,243,308

In 1854 the production of anthracite pig iron overtook that of charcoal, and in 1869 the production of charcoal pig iron was again overtaken by that of bituminous coal and coke. Since 1854 anthracite has been the leading branch of our pig iron industry, and since 1869 charcoal has been the least productive of all branches.

## BLAST FURNACES OF PENNSYLVANIA.

### LEHIGH VALLEY ANTHRACITE.

Allentown iron works, Allentown iron company, Allentown, Lehigh county. Office, 105 Walnut street, Philadelphia. Five stacks: one 45x12, one 45x14, two 52x16, and one 60x17; weekly capacity, 1,050 tons.

Allentown rolling mill company, Allentown. Office, 303 Walnut street, Philadelphia. Two stacks, each 65x16. Formerly owned by Roberts iron company.

Bethlehem iron works, Bethlehem iron company, Bethlehem, Northampton county. Three stacks; built in 1863, 1867 and 1868; dimensions, 62 feet 5 inches x15, 45x15 and 50x14 feet 5 inches. Three stacks building, one of which, now almost finished, will make spiegeleisen from zinc residuum.

Carbon iron works, Carbon iron company, Parryville, Carbon county. Three stacks, 52x12, 52x16 and 65x18; built in 1855, 1864 and 1869, respectively.

Coleraine iron works, W. T. Carter & Co, Coleraine iron company, Redington, Northampton county. Office, 103 Walnut street, Philadelphia. Two stacks, each 60x17; one built in 1869, the other in 1872; combined weekly capacity, 500 tons.

Crane iron works, Crane iron company, Catasauqua, Lehigh county. Office, 224 South Fourth street, Philadelphia. Six stacks, 45x11, 45x13, 55x16, 55x17½, 55x17½ and 60x17½; built in 1840, 1842, 1846, 1850, 1850, and 1867, respectively.

Durham iron works, Cooper, Hewitt & Co., Riegelsville, Bucks county. Office, 17 Burling Slip, New York. Three stacks: two, 48x13 and 50x15, built in 1848 and 1851; another stack, 75x20, building in 1874.

Emaus furnace, C. H. Nimson, lessee, Allentown, Lehigh county. One stack, 70x16; first put in blast October 10, 1872. Owned by Emaus iron company, S. Gross Fry, president, 258 South Third street, Philadelphia.

Glendon iron works, Glendon iron company, John C. Lowell, president, Wm. Firmstone, superintendent, Easton, Northampton county. Five stacks, 50x18, 50x12, 50x16, 50x13, and 72x18; built in 1843, 1844, 1850,

1852, and 1869, respectively. No. 1 was rebuilt in 1849. These furnaces are at Glendon, near Easton, except No. 4, which is situated at South Easton. No. 2 and No. 4 are blown by water power.

Keystone furnace, Keystone iron company, (E. H. Green, of Easton, president,) near Glendon, Northampton county. One stack ; in course of erection.

Lehigh iron works, Lehigh iron company, Allentown, Lehigh county. Two stacks 55x16 and 60x17 ; the second stack was first put in blast in October, 1872.

Lehigh Valley furnaces, Lehigh Valley iron company, Coplay, Lehigh county. Three stacks, 60x14, 55x16 and 55x16 ; built in 1853, 1862 and 1868 respectively.

Lock Ridge furnaces, Thomas iron company, Alburtis, Lehigh county. Two stacks, each 55x15 ; built in 1867 and 1869.

Millerstown iron company, A. A. M'Hose, superintendent, Macungie, Lehigh county. One stack 65x16 ; completed in June, 1874.

Northampton furnace, Bethlehem iron company, Freemansburg, Northampton county. Office at Bethlehem. One stack, 65x16 ; built in 1872 ; went in blast July 18, 1873.

North Penn furnace North Penn iron company, Bingen, Northampton county. One stack, 63x18.

Saucon iron works, Saucon iron company, Geo. W. Whitaker, president, Hellertown, Northampton county. Two stacks, each 50x16 ; built in 1868 and 1869.

Thomas iron works, Thomas iron company, Hokendauqua, Lehigh county. Six stacks, two 60x18, two 55x18, and two 60x20 ; four were built from 1855 to 1862 ; No. 5 first blew in on September, 15, 1873, and the sixth is nearing completion.

Uhler iron works, Peter Uhler, Easton, Northampton county. Furnace at Glendon. One stack, 65x14 ; built in 1871 This was formerly Easton furnace.

#### SCHUYLKILL VALLEY ANTHRACITE.

Anvil furnace, Pottstown iron company, Pottstown, Montgomery county. One stack, 50x16 ; built in 1867.

Bechtelsville, Berks county. One stack ; building in 1874.

East Penn iron company, Lyons, Berks county. Building two stacks, each 48x12½.

Edgehill furnace, Edgehill iron company, Fitzwatertown, Montgomery county. Office, No 43 North Water street, Philadelphia. One stack, 65x16 ; built in 1872.

Hampton furnace, E. & G. Brooke, Birdsboro', Berks county. One stack, 30x8 ; built in 1846. Changed recently from charcoal.



Henry Clay furnaces, Eckert & Bro., Reading, Berks county. Two stacks, 45x12; built in 1844; total weekly capacity, 300 tons.

Keystone furnaces of Reading, Keystone furnace company, Reading, Berks county. Two stacks; one, 50x15, built in 1870; the other, 50x14, built in 1872-3, blown in during June, 1873.

Keystone furnaces, E. & G. Brooke, Birdsboro', Berks county. Three stacks; two, 43½x12 and 55x15, built in 1853 and 1871, respectively; one stack, 60x16, built in 1873, has a capacity of 225 tons per week.

Kutztown furnace, Kutztown iron company, Kutztown, Berks county. Thomas Wren, president, John Humbert, secretary. One stack, 54x15½, now building and to be completed in 1874.

Leesport furnace, Leesport iron company, Leesport, Berks county. One stack, 45x14; built in 1853; weekly capacity, 200 tons.

Lucinda furnace, Schall & Co., Norristown Montgomery county. One stack, 39x12; built in 1856.

Merion furnaces, J. B. Moorhead & Co., Conshohocken, Montgomery county. Office, 136 South Third street, Philadelphia. Two stacks; Merion furnace, 40x12½; built in 1847; Elizabeth furnace, 50x15, built in 1872, went in blast October 24, 1872. Capacity about 350 tons per week.

Minersville furnace, Minersville coal and iron company, Jacob S. Lawrence, president, Frank Heisler, secretary, Minersville, Schuylkill county. One stack, 55x15; built in 1872-3; blown in September 5, 1873; bell-and-hopper top; iron stack; weekly capacity, 200 tons.

Monocacy furnace, Wright, Cooke & Co., Monocacy, Berks county. Office, 214 Walnut street, Philadelphia. One stack, 50x14; annual capacity, 7,000 tons.

Montgomery furnace, Montgomery iron company, Port Kennedy, Montgomery county. Office, 228 Dock street, Philadelphia. One stack, 50x14; built in 1854.

Moselem furnace, Moselem iron company, Nora, Berks county. Office, 228 Dock street, Philadelphia. One stack, 48x12½; rebuilt in 1872.

Mount Laurel furnace, W. H. Clymer & Co., Temple, Berks county. One stack, 50x11; changed from charcoal to anthracite.

Norristown iron works, James Hooven & Sons, Norristown Montgomery county. One stack, 55x16; built in 1869.

Philadelphia furnace, S. Robbins & Son, Beach and Vienna streets, Kensington, Philadelphia. One stack, 58x14; built in 1873,

Phoenix iron works, Phoenix iron company, Phoenixville, Chester county. Office, 410 Walnut street, Philadelphia. Three stacks, 48x14, 36x15, and 50x14; two built in 1845, and the third in 1849.

Pioneer furnaces, Atkins & Bro., Pottsville, Schuylkill county. Three stacks, 50x12, 50x13, and 55x15; built in 1853, 1866 and 1872, respectively.

Plymouth furnaces, S. Fulton & Co., Conshohocken, Montgomery county. Office, 242 South Third street, Philadelphia. Two stacks, 44x15 and 42x15; built in 1845 and 1864, respectively.

Port Carbon furnace, Schuylkill iron company, Port Carbon, Schuylkill county. One stack, 52x13 $\frac{3}{4}$ ; built in 1872 and put in blast in September, 1872.

Reading furnaces, Seyfert, M'Manus & Co., Reading, Berks county. Office, 631 Chestnut street, Philadelphia. Two stacks; one, 55x16, built in 1854; the other, 55x15, first blown in on October 5, 1874. The old stack was refitted in 1870. Both stacks have bell-and-hopper top.

Ringgold iron and coal company, New Ringgold, Schuylkill county. One stack, 55x14; built in 1873; blown in February 28, 1874.

Robesonia furnaces, White & Ferguson, Robesonia, Berks county. Two stacks, 30x9 and 38x13; built in 1845 and 1858, respectively.

St. Clair furnace, James Lanigan, Pottsville, Schuylkill county. Office, 329 Walnut street, Philadelphia. One stack, 55x16; bell-and-hopper top.

Swede furnaces, James Lanigan, Swedeland, Montgomery county. Two stacks, each 60x16; built from 1850 to 1855.

Topton furnace, Topton iron company, Levi H. Leiss, president, Reading, Berks county. One stack, 55x16; built in 1873.

Temple furnace, Temple iron company, Temple, Berks county. One stack, 45x13 $\frac{1}{2}$ ; built in 1867.

Wm. Penn furnaces, D. O. & H. S. Hitner, Conshohocken, Montgomery county. Three stacks, 35x12, 50x14, and 40x12 $\frac{1}{2}$ ; built in 1844, 1845, and 1854.

#### PROJECTED.

A joint stock company has been formed for the purpose of erecting a furnace at Royer's Ford, Chester county.

Warwick furnace, Warwick iron company, Pottstown, Montgomery county. This company own a rich mine of magnetic ore in Hereford township, Berks county, which they call "steel ore," and they propose to erect a furnace 52x16, of 15,000 tons capacity.

One stack is projected at Fleetwood, Berks county, and another at Morgantown.

#### UPPER SUSQUEHANNA ANTHRACITE.

Bloom furnace, Wm. Neal & Sons, Bloomsburg, Columbia county. One stack, 50x14; built in 1854.

Chulasky furnace, Waterman & Beaver, Chulasky, Northumberland county. One stack, 42x15 ; built in 1846.

Columbia furnaces, Grove Brothers, Danville, Montour county. Two stacks, 39x14 and 50x14 ; built in 1840 and 1860, respectively.

Duncannon furnace, Duncannon iron company, Duncannon, Perry county. Office, 122 Race street, Philadelphia. One stack, 40x14 ; built in 1853.

Irondale furnaces, Bloomsburg iron company, Bloomsburg, Columbia county. Office, 122 Race street, Philadelphia. Two stacks, 36x12 ; built in 1844 and 1845.

Juniata furnace, Williamsburg-manufacturing company, Williamsburg, Blair county. One stack, 28x8 ; built in 1857 ; annual capacity, 2,500 tons.

Lackawanna iron works, Lackawanna iron and coal company, Edward C. Lynde, secretary, Scranton, Luzerne county. Five stacks ; one built in 1872 ; two are 50x18 ; one 80x18, and one 50x19 ; the new stack is 67 feet high with 23-foot boshes.

Lewistown furnaces, Glamorgan iron company, Lewistown, Mifflin county. Office, 430 Walnut street, Philadelphia, and 265 South Fourth street, Philadelphia. Two stacks, 45x12 and 54x14½ ; one, built in 1853, one built in 1872, put in blast in December, 1872.

Marshall furnace, Marshall iron company, Newport, Perry county. One stack, 50x14 ; built in 1872.

Mansfield furnace, Shoaber & Johnson, Reading, Pa. Furnace at Mansfield, Tioga county. Part of Tioga iron works, W. G. Lutz, superintendent. One stack, 36x10 ; built in 1854.

Marsh, Jas. S., & Co., Northumberland, Northumberland county. One stack, 61x18, in course of erection.

Matilda furnace, B. B. Thomas, Matilda furnace, Mifflin county. One stack, 43x10 ; built in 1838.

Pennsylvania iron works, Waterman & Beaver, Danville, Montour county. Office, 407 Library street, Philadelphia. Three stacks ; two, 50x16, and one 34x14 ; built in 1842.

Rebecca furnace, Johnston & Hemphill, Martinsburg, Blair county. One stack, 30x8½ ; built in 1820.

Union furnace, Beaver, Marsh & Co., Winfield, Union county. One stack, 50x15 ; built in 1854 ; annual capacity, 7,000 tons.

Union furnaces, Fowler & Krebs, lessees, Danville, Montour county. Owned by Hancock steel and iron company. Two stacks, 38x14 and 60x16 ; built in 1867 ; estimated annual capacity, 14,000 tons. These furnaces were formerly known as the Danville furnaces and afterwards as the National iron company's furnaces.



## PROJECTED.

Wistar iron and coal company, Wistar, Clinton county. Dr. E. Eldridge, Elmira, N. Y., president.

One stack is projected by Messrs. Cruikshank, Freeburg, Snyder county. Another is projected at Mansfield, Tioga county.

## LOWER SUSQUEHANNA ANTHRACITE.

Aurora furnace, Wrightsville iron company, Wrightsville, York county. One stack, 38x14; built in 1867.

Baldwin furnace, Pennsylvania steel company, Steel Works P. O., Dauphin county. Office, 216 South Fourth street, Philadelphia. One stack, 60x14; built in 1872-3; put in blast in October, 1873.

Bird Coleman furnace, R. W. Coleman's heirs, Cornwall, Lebanon county. One stack, 52x15; built in 1872-3.

Cameron furnace, Cameron furnace company, Middletown, Dauphin county. One stack, 35x13 $\frac{3}{4}$ ; built in 1857.

Chestnut Hill furnaces, Chestnut Hill iron ore company, Columbia, Lancaster county. Three stacks.

Chiques furnaces, E. Haldeman & Co., Chiques, Lancaster county. Two stacks, 45x12 and 45x13; built in 1845 and 1854.

Conestoga furnace, Thomas & Peacock, Lancaster, Lancaster county. Office, 430 Walnut street, Philadelphia. One stack, 38x10; built in 1846; weekly capacity, 110 tons.

Cornwall anthracite furnaces, R. W. Coleman's Heirs & Co., Cornwall, Lebanon county. Two stacks, each 38x12; built in 1850 and 1854.

Dauphin furnace, George Malin, 228 Dock street, Philadelphia; furnace at Dauphin, Dauphin county. One stack; re-built in 1872.

Dock iron works, Gillard Dock & Co., Harrisburg, Dauphin county. One stack, 30x7; built in 1873-4.

Donaghmore furnace, R. W. Coleman's heirs, Lebanon, Lebanon county. One stack, 38 $\frac{1}{2}$ x13 $\frac{1}{2}$ ; built in 1855.

Donegal furnace, Benson & Cottrell, Marietta, Lancaster county, addressed at Columbia. One stack, 36x12; built in 1848; daily yield, 16 tons.

Harrisburg furnace, Price Bros., Harrisburg, Dauphin county. One stack, 39x12; built in 1844; formerly Porter furnace.

Kauffman furnace, C. S. Kauffman, Columbia, Lancaster county. One stack, 36x12 $\frac{1}{2}$ ; built in 1855.

Lebanon furnaces, G. D. Coleman, Lebanon, Lebanon county. Three stacks, 50x14, 36x12 and 55x16; built in 1846 (reconstructed in 1868,) 1847 and 1872-3, respectively; the new furnace was put in blast in August, 1873.

Lebanon Valley furnace, J. & R. Meily, Lebanon, Lebanon county. One stack, 38x12; built in 1868.

Lochiel furnace, Lochiel rolling mill company, A. J. Dull, manager, Harrisburg, Dauphin county. One stack, 52x14; built in 1873; put in blast in April, 1873; weekly capacity, 150 tons.

Marietta furnaces, H. M. Watts & Sons, Marietta, Lancaster county. Two stacks, 45x12 and 47x12; built in 1849 and 1850.

Middletown furnace, Meily & Nutting, Middletown, Dauphin county. One stack, 40x12½; built in 1853.

Musselman furnace, H. Musselman & Sons, Marietta, Lancaster county. One stack, 40x13; daily capacity, 20 tons.

North Cornwall furnace, Mrs. M. C. Freeman, North Cornwall, Lebanon county. One stack, 52x15; built in 1873-4.

Paxton furnaces, M'Cormick & Co., Harrisburg, Dauphin county. Two stacks, 43x14 and 60x14; one built in 1872; weekly capacity, 300 tons.

Safe Harbor furnace, Safe Harbor iron company, Samuel M. Wright, superintendent, Safe Harbor, Lancaster county. One stack, 45x14; built in 1848; annual capacity, 8,000 tons; not in blast since 1865; not to be put in operation until the Columbia and Port Deposit railroad, now being made, is completed.

Sheridan furnaces, Wm. M. Kaufman & Co., Sheridan, Lebanon county. Two stacks; one, an old furnace, and the other, 55x16, built in 1874.

Stanhope furnace, Wynkoop Bros., Pine Grove, Schuylkill county. One stack, 33x10.

St. Charles furnace, C. B. Grubb & Son, Columbia, Lancaster county. Addressed at Lancaster. Two stacks, 39x11 and 42x14; built in 1845 and 1853. The smaller stack was formerly called Henry Clay furnace.

Union Deposit furnace, Henry Landis, Union Deposit, Dauphin county. One stack, 39½x11; built in 1854.

Wister furnace, J. & J. Wister, Harrisburg Dauphin county. One stack 45x14; built in 1867.

#### PROJECTED.

Meyerstown, Lebanon county. P. L. Weimer, Lebanon, promoter. One stack each is projected by C. B. Grubb & Son, and Columbia steel and iron works, at Columbia, Lancaster county.

C. W. Ahl & Sons intend to build one stack, 60x15, weekly capacity, 150 tons, iron frame and jacket, at Boiling Springs, Cumberland county. Another furnace is talked of at Mechanicsburg, Cumberland county.

#### SHENANGO VALLEY—BITUMINOUS COAL OR COKE.

Allen furnace, Henderson, Allen & Co., Sharpsville, Mercer county. One stack, 50x12; built in 1870; annual capacity 9,000 tons.

Clara furnace, Crowther iron company, New Castle, Lawrence county. Coke. One stack, 60x16; annual capacity, 16,000 tons; built in 1872; put in blast in May, 1872.

Douglas furnaces, Pierce, Kelley & Co., Sharpsville, Mercer county. Two stacks; one stack, 50x12, built in 1871; one stack, 50x14, built in 1872; combined capacity, 20,000 tons.

Erie furnace, Rawle, Noble & Co., Erie, Erie county. One stack, 55x12, built in 1869; annual capacity, 9,000 tons.

Samuel Kimberly, Etna iron company, New Castle, Lawrence county. Two stacks, built in 1868, each 50x12; combined annual capacity, 18,000 tons.

Fannie furnace, Wheeler iron company, West Middlesex, Mercer county. One stack,  $51\frac{1}{2} \times 13\frac{1}{2}$ ; built in 1873; put in blast October 13, 1873; annual capacity, 9,000 tons.

Keel Ridge furnace, Samuel Kimberly, Sharon, Mercer county. One stack,  $55 \times 13\frac{2}{3}$ ; built in 1869; annual capacity, 12,000 tons.

Middlesex furnace, Middlesex furnace company, Middlesex, Mercer county. One stack, 46x12; annual capacity, 6,000 tons.

Mt. Hickory furnaces, Mt. Hickory iron company, Sharpsville, Mercer county. Two stacks, each 50x12; built in 1869; combined annual capacity, 18,000 tons.

Neshaunock furnace, Neshannock iron company, New Castle, Lawrence county. One stack, 60x14; built in 1872; annual capacity, 12,000 tons.

Onondago furnace, Onondago iron company, New Castle, Lawrence county. One stack in course of erection; to be completed in 1874.

Ormsby furnace, Ormsby iron company, Sharpsville, Mercer county. One stack, 50x12; built in 1872; blown in February 15, 1873; annual capacity, 9,000 tons.

Sharon furnace, Boyce, Rawle & Co., Sharon Mercer county. One stack,  $46 \times 10\frac{1}{3}$ ; built in 1845; annual capacity, 9,000 tons.

Sharpsville furnace, James Pierce & Sons, Sharpsville, Mercer county. One stack, 50x11; annual capacity, 9,000 tons.

Shenango furnaces, Shenango furnace company, Middlesex, Mercer county. Two stacks, each 46x10, built in 1860; combined annual capacity, 17,000 tons.

Shenango iron works, Sophia, Little Pet and Rowena furnaces, Reis, Brown & Berger, New Castle, Lawrence county. Three stacks; two, 65x13, and 40x9, built in 1872 and 1853, respectively; one, 77x20, completed in 1872, went in blast in June, 1873; combined annual capacity, 40,000 tons. The Sophia, now 65x13, will shortly be enlarged to 15-foot bosh.



Spearman furnaces, Spearman iron company, Sharpsville, Mercer county. One stack, 50x14, annual capacity, 10,000 tons, built in 1872; one stack now building.

Stewart furnaces, Stewart iron company, Sharon, Mercer county. Formerly Valley furnaces. Two stacks, one 51x12, built in 1870, and one 55x14, built in 1872; combined annual capacity, 20,000 tons.

Wampum furnace, Wampum furnace company, Wampum, Lawrence county, one stack, 50x13; annual capacity, 8,000 tons.

Westerman furnaces, Westerman iron company, Sharon, Mercer county, two stacks, each 50x13, built in 1865 and 1866; combined annual capacity, 18,000 tons.

Wheatland furnaces, James Wood's Sons & Co., Wheatland, Mercer county; four stacks, built from 1860 to 1865, one 46x9, and three 46x12; combined annual capacity, 30,000 tons. Firm is insolvent. One stack has been leased by Kimberly, Carnes & Co., and the other three stacks have been leased by Herron, Ohl & Co., who have run them from March, 1873.

#### PROJECTED.

Wampum furnace company, Wampum, Lawrence county, intend to build another stack in 1874.

#### ALLEGHENY COUNTY—COKE.

Clinton furnace, Graff, Bennett & Co., Pittsburg, Allegheny county. One stack, 45x12, built in 1859. Annual product, 12,000 tons.

Eliza furnaces, Laughlins & Co., Pittsburg, Allegheny county. Two stacks, built in 1861; originally 45x12, but in 1873 and 1874 they were enlarged to 60x17, with a yearly capacity of 36,000 tons.

Enterprise furnace, Enterprise furnace company, (P. O. Pittsburg,) Hite's station. One stack, built in 1872, torn down, and now rebuilding.

Isabella furnaces, Isabella furnace company, Etna, Allegheny county. Two stacks; built in 1872; one 75x18, and the other 75x20; annual capacity, 56,000 tons.

Lucy furnace, Kloman & Carnegie Bros., Pittsburg, Allegheny county. One stack, 75x20; first put in blast in May, 1872; annual capacity, 28,000 tons.

Shoenberger furnaces, Shoenberger, Blair & Co., Pittsburg, Allegheny county. Two stacks, 47½x13, built in 1864; annual capacity, 30,000 tons.

Soho furnace, Moorhead, M'Cleane & Co., Pittsburg, Allegheny county. One stack, 65x18, built in 1872; put in blast in November, 1872; annual capacity, 22,000 tons.

Superior furnaces, Harbaugh, Mathias & Owens, Woods Run, Allegheny county. Addressed at Pittsburg. Two stacks, 45x12; built in 1862-3; annual capacity, 22,000 tons.

## PROJECTED.

Isaac Jones, M'Keesport, Allegheny county. One stack.

## RAW BITUMINOUS COAL OR COKE—STATE.

Allegheny furnace, S. C. Baker, Altoona, Blair county. Coke. One stack, 32x9; built in 1811.

Bennington furnace, Blair iron and coal company, Bennington furnace, Blair county. Addressed at Hollidaysburg and at the Philadelphia office 218 South Fourth street. One stack, 40x11; built in 1856. Coke.

Blair iron and coal company, Hollidaysburg, Blair county. Coke. Two stacks, 43x12 and 38x10½; built in 1856.

Brady's Bend furnaces, Brady's Bend iron company, Brady's Bend, Armstrong county. Four stacks, 44x9, 44x10½, 50x14 and 50x13½; built from 1842 to 1845.

Cambria iron works, Cambria iron company, Johnstown, Cambria county. Office, 218 South Fourth street, Philadelphia. Coke. Four stacks at Johnstown: three 48x13 and one 70x15; built from 1852 to 1854; one stack at Conemaugh station, 45x12; built in 1857. A large furnace 75x20 is now building at Johnstown and another of the same size is contemplated.

Charlotte furnace, Everson, Knap & Co., Scottdale, Westmoreland county. One stack 65x16½; coke; built in 1872-3; daily capacity 45 tons; put in blast October 14, 1873.

Dunbar furnace, Dunbar iron company, Dunbar, Fayette county. One stack 58x15½; built in 1870; average daily run, 50 tons.

Elizabeth furnace, Martin Bell & Co., Sabbath Rest, Blair county. Coke. One stack 32x9; went into blast in the fall of 1872 after a long rest.

Fairchance furnace, Fairchance iron company, Uniontown, Fayette county. Coke. One stack 45x13; built in 1784 and rebuilt in 1871.

Frankstown furnace, Blair iron and coal company, Frankstown, Blair county. Coke. One stack 40x10; rebuilt in 1872 and put in blast November 1, 1872. Gap furnace, Johnston & Hemphill, M'Kee, Blair county. One stack 36x10.

Howard furnace, Lauth, Thomas & Co., Howard, Centre county. Coke. One stack 33x8; repaired in 1872; weekly capacity 100 tons.

Kemble furnaces, Kemble coal and iron company, Riddlesburg, Bedford county. Office 20 Nassau street, New York, address P. O. box 157. Two stacks 60x14; built in 1869 and 1871.

Mahoning furnace, J. A. Colwell & Co., Oakland, Armstrong county. One stack 38x10½; built in 1848.

Monticello furnace, M'Knight, Porter & Co., Monticello, Armstrong county. One stack 52½x11; built in 1860.

Pine Creek furnace, Brown & Mosgrove, Kittanning, Armstrong county. One stack, 40x11 ; built in 1846.

Red Bank furnace, Reynolds & Moorhead, Red Bank Furnace, Clarion county. Coke. One stack, 40x11 ; built in 1859.

Rock Hill iron and coal company, Orbisonia, Huntingdon county. Office, 320 Walnut street, Philadelphia. Building two stacks, each 65x17.

Rodman furnaces, Charles Knap & Co., Roaring Spring, Blair county. Two stacks, 42x9 and 45x14 ; coke.

Sligo furnace, J. P. Lyon & Co., Sligo, Clarion county. Coke. One stack, 32x9 ; not in blast in 1872 and 1873 ; re-building in 1873-4.

Stewardson furnace, F. B. & A. Laughlin, Orrsville, Armstrong county. Coke. One stack, 43½x11.

#### PROJECTED.

A company has been organized at Corry, Erie county, and the erection of a furnace of great capacity is contemplated.

Several furnaces are projected in Southampton township, Bedford county.

#### CHARCOAL—STATE.

Augusta furnace, George Clever, Cleversburg, Cumberland county. One stack ; not in blast for four years ; to be re-built and put in blast by the present owner in 1874.

Barre Forge furnace, Dorris & Co., Barre Forge, Huntingdon county. One stack, 33x9 ; iron made into blooms for boiler plate.

Big Pond furnace, Philadelphia and Reading coal and iron company, Newville, Cumberland county. One stack, 33x8½ ; built in 1836.

Caledonia furnace, Thaddeus Stevens' estate, Graeffenburg, Adams county. One stack, 33x8 ; built in 1837 ; not in blast in 1872 and 1873 ; furnace in Franklin county.

Carlisle furnace, C. W. & D. V. Ahl, Boiling Springs, Cumberland county. Office at Carlisle. One stack, 28x8 ; built in 1790 and re-built in 1810 ; hot and cold blast ; water power.

Carrick furnace, R. M. Shalter, Fannettsburg, Franklin county. One stack, 30x8 ; weekly capacity, 35 tons.

Charcoal furnace, Foltz, Jordan & Co., New Castle, Lawrence county. One stack.

Chestnut Grove furnace, Wm. Hildebrand, Idaville, Adams county. One stack, 33x8½ ; built in 1830.

Cornwall furnace, R. W. Coleman's heirs, Cornwall, Lebanon county. One stack, 31x8 ; built in 1745.

Cumberland furnace, Ahl & Bro., Dickinson, Cumberland county. Out of blast for many years ; recently purchased by Ahl & Bro., who intend to operate the mines in its vicinity and perhaps fit up the furnace.



Eagle furnace, C. R. & J. Curtin, Milesburg, Centre county. One stack, 30x8 ; built in 1848.

East Penn furnace, John Balliet, Parryville, Carbon county. One stack, 28x7½ ; cold blast ; water power.

Emma furnace, Logan iron and steel company, Lewistown, Mifflin county. Office, 218 South Fourth street, Philadelphia. One stack, 34x9 ; warm and cold blast ; steam power.

Etna furnace, Geo. D. Isett & Bro., Yellow Springs, Blair county. One stack, 31x8 ; cold blast ; built in 1808.

Franklin furnace, Hunter & Springer, St. Thomas, Franklin county. One stack, 32x8½ ; built in 1828 , cold blast ; steam power.

Greenwood furnaces, Logan iron and steel company, Greenwood works, Huntingdon county. Office, 218 South Fourth street, Philadelphia. Two stacks, 30x8½, and 32x8½ ; cold blast , steam power.

Hecla furnace, M'Coy & Linn, Milesburg, Centre county. One stack, 32x9 ; built in 1820 ; cold blast ; water power.

Helen furnace, John Rice, Richmond furnace, Franklin county. One stack, 36x9 ; hot blast ; steam power ; formerly Mt. Pleasant iron works. It is reported this furnace will soon be changed to anthracite.

Hope furnace, Jos. S. Brown & Co., Rose Point, Lawrence county. One stack, 28x8 ; built in 1868 ; cold blast ; steam power.

Hopewell furnace, Clingan & Buckley, Douglassville, Berks county. One stack, 30x7 ; very old.

Hopewell furnace, Lowry, Eichelberger & Co., Hopewell, Bedford county. One stack, 30x8½ ; built in 1800.

Howard furnace, Lauth, Thomas & Co., Howard, Centre county. One stack, 31x8½ ; built in 1833 ; cold blast ; water power ; undergoing repairs in 1872 ; put in blast in June, 1873.

Isabella furnace, Smith & Bros., Barneston, Chester county. One stack, 33x8 ; built in 1835 and rebuilt in 1864 ; cold blast ; water power.

Jefferson furnace, John M. Kaufman & Bros., Auburn, Schuylkill county. One stack, 31x7 ; built in 1864 ; cold blast ; water power.

Joanna furnace, L. B. Smith & Co., Joanna furnace, Berks county. One stack, 30x8 ; built in 1792, and rebuilt in 1847 ; cold blast ; water and steam power.

Laura furnace, W. A. Taylor & Co., Millerstown, Perry county. One stack, 35x9 ; built in 1873 ; cold blast ; water power ; weekly capacity, 35 tons.

Logan furnace, Valentine & Milliken, Bellefonte, Centre county. One stack, 32x8 ; cold blast ; water power.

Madison furnace, J. P. Lyon & Co., Sligo, Clarion county. One stack ; cold blast.

Maiden Creek furnace, heirs of George Merkel, Lenhartsville, Berks county. One stack 35x9; built in 1854; cold blast; water and steam power.

Manada furnace, Grubbs & Bland, Swatara Station, Dauphin county. One stack 31x8; built in 1836; cold blast; water power.

Mont Alto furnace, Mont Alto iron company, Mont Alto, Franklin county. One stack 37x9½; built in 1808; warm blast; steam power; bloom forge connected with the furnace.

Mount Hope furnace, A. B. Grubb, Mount Hope, Lancaster county. One stack 27x7; built in 1785; not in blast since 1871.

Mount Penn furnace, Hunsicker & Co., Reading, Berks county. One stack 30x8½; built in 1830; cold blast; water power.

Oley furnace, W. H. Clymer & Co., Temple, Berks county. One stack 30x9; built in 1772.

Pennsylvania furnace, Lyon, Shorb & Co., Graysville, Huntingdon county. One stack 32x9; built in 1813.

Pine Grove furnace, South Mountain iron company, Mountain Creek, Cumberland county. One stack 33x8½.

Sarah furnace, Essington Hammond, Sarah, Blair county. One stack 33x8; built in 1824; cold blast; capacity 40 tons per week.

Springfield furnace, John Royer, Springfield Furnace, Blair county. One stack 31x8½; built in 1815; warm blast; water power.

Spring Hill furnace, Fairchance iron company, Smithfield, Fayette county. One stack 35x9; built in 1805, rebuilt in 1854 and repaired in 1873.

Washington iron works, Barlow & Day, Lamar, Clinton county. One stack 30x7; built in 1809.

York furnace, John Bair & Co., York Furnace, York county. One stack 32x8; built in 1830; cold blast; water power.

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## ROLLING MILLS OF PENNSYLVANIA.

### EASTERN DISTRICT.

Allentown rolling mill company, consolidation of Allentown rolling mill, Lehigh rolling mill, and Roberts iron company. Works at Allentown, Lehigh county. Office, 303 Walnut street, Philadelphia. Built in 1860; one single and 23 double puddling furnaces, 3 single and 7 double heating furnaces, and 8 trains of rolls; product, steam and street rails, from 16 pounds upwards, fish plates, merchant bars, spikes, bolts, nuts, rivets, axles, machinery, bridge work, and mine and flat cars.

Bethlehem iron company, Bethlehem, Northampton county. Built in 1863. Mill No. 1, 14 double puddling furnaces, 9 heating furnaces, and 3 trains of rolls; product, railroad iron; annual capacity, 22,500 net tons; average annual production, 18,000 tons. Mill No. 2, 24 and 26-inch rail trains, 124 feet 9 inches in length from centre to centre of engines; engines at each end, north, 48x46 stroke, south, 56x48 stroke; one 31-inch bloom train, with one engine 36-inch diameter and 60-inch stroke. Steel works, 2 converters, equal to 120 tons Bessemer steel per day, cupola engine, 18 by 48, blowing engine, 36x60, 7 Siemens's regenerative gas furnaces for heating ingots and blooms, 4 cupola furnaces, and 2 spiegel melting furnaces.

Birdsboro' nail works, E. & G. Brooke, Birdsboro', Berks county. Built in 1848; seven double puddling furnaces, 2 scrap and 3 heating furnaces, 72 nail machines, and 2 trains of rolls; steam and water power; product, nails, puddle bar and scrap iron.

Blandon iron works, Blandon iron company, Blandon, Berks county. Built in 1867; one double and 3 single puddling furnaces, 1 heating furnace, and 2 trains of rolls; product, skelp and band iron; annual capacity, 2,500 net tons. Average yearly product, 1,800 tons.

Brandywine rolling mills, S. & B. R. Hatfield, Coatesville, Chester county. Product, plate iron.

Bristol rolling mill, Owen, Jones & Co., Bristol, Berks county. Leased by present operators in January, 1873; two single puddling furnaces, 3 heating furnaces, one train bar rolls, 2 trains sheet rolls, and one hammer; product, sheet and flue iron; annual capacity, 3,000 net tons.

Catasauqua manufacturing company, Catasauqua, Lehigh county. Two mills; Catasauqua and Ferndale; organized in 1864; 28 single puddling furnaces, 9 heating furnaces, 7 trains of rolls, and one 10-ton hammer; product, merchant bar, small T rail, band, and large size skelp iron, boiler plate, tank and chute iron; annual capacity, 20,000 net tons.

Chester, Delaware county. John Roach & Co. are building a plate mill, in 1874.

Conshohocken, Pennsylvania and Corliss iron works, J. Wood & Bros., Conshohocken, Montgomery county. Office, 223 North Second street, Philadelphia. Built in 1832, 1852 and 1864, respectively; 5 double puddling furnaces, 7 heating furnaces and 7 trains of rolls; steam and water power; product, plate and sheet iron; annual capacity, 6,000 net tons; average yearly production, 4,500 tons.

Delaware rolling mills, Hughes & Patterson, Richmond and Otis streets, Philadelphia. Built in 1870; 6 single puddling furnaces, 4 heating furnaces and 3 trains of rolls; product, bar iron; annual capacity, 8,000 net tons.



Easton sheet iron works, Samuel Oliver & Son, Easton, Northampton county. Put in operation February 1, 1872; 2 single puddling furnaces, one heating furnace, one sheet furnace, one annealing furnace and one train of rolls, consisting of one pair sheet rolls and one pair bar rolls; product, sheet iron; annual capacity, 1,000 net tons. Production sold by Marshall Lefferts, Jr., 90 Beekman street, New York.

Fair Hill forge and rolling mill, Gaulbert, Morgan & Caskey, York and America streets, Philadelphia. Built in 1854; 1 single and 2 double puddling furnaces, 3 heating furnaces, 2 trains of rolls and 1 hammer; product, merchant bar; annual capacity, 3,000 net tons.

Fort Allen iron works, Weissport, Carbon county. Ezra Bertolet, agent, 420 Walnut street, Philadelphia. Rebuilt in 1872; 1 single and 2 double puddling furnaces, 2 heating furnaces, one squeezer and 2 trains of rolls; one 9 and one 16-inch train; product, guide and bar iron; annual capacity, 3,000 tons. Now idle.

Fulton rolling mill, S. Fulton & Co., Norristown, Montgomery county. Built in 1861; 11 double puddling furnaces and 1 train puddle rolls; product, puddled bar; annual capacity, 15,000 net tons; average make, 5,550 tons.

Gibraltar iron works, S. Seyfert & Co., Reading. Built in 1846; 2 heating furnaces, 2 hammers and 1 train of rolls; water power; product, boiler plate, boiler tube iron and blooms; annual capacity, 1,500 net tons plate iron and 1,000 tons blooms.

Glen iron works, Allentown, Lehigh county. First put in operation in 1870; 6 double and 2 single puddling furnaces, 3 heating furnaces and 3 trains of rolls, one 8½ and two 15-inch; product, bar iron and small T rails; annual capacity, 7,500 net tons; average make, 5,400 tons.

Gray's Ferry iron works, Edward S. Buckley, 228½ Walnut street, Philadelphia. Built in 1858; 3 double puddling furnaces, 4 heating furnaces, 2 trains of rolls and 2 hammers; product, charcoal blooms and plate iron; annual capacity, 3,600 net tons plate and 600 tons blooms; average annual production, 3,000 tons plate and 500 tons blooms.

Hamburg rolling mills, Hamburg iron company, Hamburg, Berks county. Three double and 2 single puddling furnaces, one heating furnace, one 18-inch train of rolls and one 10-inch; product, bar iron.

Hibernia forge and rolling mill, Goodman & Phillips, Wagontown, Chester county. Very old works; 4 charcoal forge fires, one heating furnace, one hammer and one train of rolls; use wrought iron scrap; water power; product, boiler tube iron, skelp, flue and light boiler plate; annual capacity, 1,000 net tons.

Kensington iron and steel works, James Rowland & Co., 920 North Delaware avenue, Philadelphia. Built in 1845; 10 double puddling furnaces,

one single puddling furnace, 8 heating furnaces, and 7 trains of rolls; product, merchant bar, band and skelp iron, and steel plow and shovel plate; annual capacity, 11,000 net tons; average yearly production, 10,000 tons.

Keystone iron works, Craig & Koch, Reading, Berks county. Built in 1857; product, boiler plate, tank, chute, stack, pipe, boat and car irons.

Laurel iron works, Hugh E. Steel, Coatesville, Chester county. Built in 1825; one annealing furnace, 4 heating furnaces and 3 trains of rolls; water and steam power; product, boiler, flue, boat, bridge, tank and tube iron; annual capacity, 4,800 net tons; average make, 3,600 tons.

Little Schuylkill rolling mill, James A. Inness, Port Clinton, Schuylkill county. Built in 1869; one double and 2 single puddling furnaces, one heating furnace, and one 16-inch train of rolls; water power; product, puddled, scrap and merchant bar.

Lukens roll mills, Huston & Penrose, Coatesville. Built in 1810; 3 double puddling furnaces, 4 heating furnaces, 2 trains of rolls and one hammer; steam and water power; product, all kinds of flues, boiler and ship plates, and bridge iron; annual capacity, 6,000 net tons; average yearly production, 4,000 tons. The puddle mill, operated by water power, occupies the site of the first plate mill built in the United States.

Wm. M'Ilvain & Son's boiler plate mill, Wm. M'Ilvain & Sons, Reading. Built in 1857; 4 single puddling furnaces, 3 heating furnaces, 2 trains of rolls and one 3-ton hammer; product, boiler plate, tank, chute, stack, pipe, bridge and boat iron; annual capacity, 4,500 net tons; average yearly production, 4,000 tons.

Mount Carbon rolling mill, James A. Inness, Mount Carbon, Schuylkill county. Four double puddling furnaces, 3 heating furnaces, one 18-inch train puddle rolls, one train muck bar rolls, and one 24-inch train plate rolls. Has been standing for several years.

Norristown iron works, James Hooven & Sons, Norristown, Montgomery county. Built in 1846; 6 double puddling furnaces, 3 heating furnaces, 3 trains of rolls and one hammer; product, skelp iron; annual capacity, 5,000 net tons; average yearly production, 4,800 tons.

Palo Alto rolling mill, Benjamin Haywood, Pottsville, Schuylkill county. Built in 1854; 12 double and 5 single puddling furnaces, 9 heating furnaces, one 8-inch, two 16-inch and two 18-inch trains of rolls; product light and heavy T and street rails, fish bars, chairs and merchant bar iron; annual capacity 15,000 net tons; average yearly product 10,000 tons.

Parkesburg iron works, Horace A. Beale, Parkesburg, Chester county. First started in April, 1873; 4 charcoal forge fires, 2 heating furnaces, one train of rolls and one hammer; product, blooms and tube skelp; annual capacity 2,500 net tons.



Penceoyd iron works. A. & P. Roberts & Co., 265 South Fourth street, Philadelphia. Works in Montgomery county, opposite Manayunk. Built in 1852: 7 double puddling furnaces, 3 heating furnaces and 2 trains of rolls: product, bar iron, bridge iron and rolled and hammered axles: the forge has 3 heating furnaces and 3 hammers: annual capacity 2,040 net tons bar and bridge iron, 3,382 tons rolled axles and 3,400 tons hammered axles.

Penn Treaty iron works. Marshall Brothers & Co., 24 Girard avenue, Philadelphia. Built in 1856: 6 single puddling furnaces, 6 heating furnaces and 4 trains of rolls: product, sheet and bar iron: annual capacity 4,000 tons.

Philadelphia iron and steel company, 239 North Delaware avenue, Philadelphia. Built in 1845: one single and 2 double puddling furnaces, one puddling machine, 6 heating furnaces and 4 trains of rolls: product, bar, angle and tee iron, fish plates and peculiar shapes: average annual capacity, single turn, 6,000 net tons.

Philadelphia rolling mill, S. Robbins & Son, Beach and Vienna streets, Philadelphia. Built in 1858: 9 double puddling furnaces, 5 heating furnaces and 4 trains of rolls: product, merchant bar iron of all kinds: annual capacity 14,000 net tons: average yearly production 9,000 tons.

Philadelphia and Reading rolling mill, Philadelphia and Reading railroad company, owners. W. E. C. Cox, superintendent, Reading. Built in 1868: 12 single puddling furnaces, 10 heating furnaces and 3 trains of rolls, 23, 24 and 12-inch: product, iron and steel rails and splice bars: annual capacity 25,000 net tons: average yearly production 22,400 tons. This company is also constructing a plate mill and ship yard at Port Richmond, Philadelphia.

Phoenix iron works. Phoenix iron company, Phoenixville, Chester county. Office, 416 Walnut street, Philadelphia. Built in 1846: 20 double puddling and 8 single puddling furnaces, 23 heating furnaces and 8 trains of rolls: product, T rails, bar iron, beams, angles, tee iron and other shapes: annual capacity 24,000 net tons: average yearly production 20,000 tons. The company is building a new mill, of greater capacity than the old one, part of which will be put in operation in 1874.

Pine iron works. Joseph L. Bailly & Co., Pine iron works, Berks county. Built in 1845: two heating furnaces and one train of rolls: water power: product, boiler plate: annual capacity, 2,600 net tons: average yearly production, 2,300 tons. This firm is building a mill for making muck bar at Glasgow, on Manatawny creek, one mile from Pottstown, and will run four double puddling furnaces and a muck train of rolls: water power: to be put in operation some time in 1874.



Potts Grove iron works, Potts Brothers, Pottstown, Montgomery county. Built in 1846 ; 2 double puddling furnaces, 3 heating furnaces, and 2 trains of rolls ; product, plate iron, comprising boiler, tank, pipe and flue iron ; annual capacity, single turn, 3,000 net tons ; average yearly production, 2,500 tons. This firm also has a bar mill, 3,000 tons yearly capacity, which has not been worked for 15 years.

Pottstown iron company, Pottstown, Montgomery county. Built in 1867 ; 14 double puddling furnaces, 5 heating furnaces, 4 trains of rolls, 53 nail machines, one hammer and one squeezer ; product, nails and plate iron ; annual capacity, nails, 6,000 net tons, plate, 5,000 tons.

Pottsville rolling mills, Atkins Brothers, Pottsville. Built in 1852 ; 14 double and 4 single puddling furnaces, 8 heating furnaces, and 3 trains of rolls ; product, T rails of both light and heavy sections, and street rails.

Reading bolt and nut works, J. H. Sternbergh, Reading. Built in 1866 ; enlarged in 1872 ; one single puddling furnace, 2 heating furnaces, one train of rolls, and one 1,500-pound steam hammer ; product, merchant bar iron, machine bolts, lag screws, rods for buildings, bridges, etc., and hot pressed nuts of all sizes ; annual capacity, about 3,000 net tons ; average yearly production, 2,500 tons.

Reading iron works, Seyfert, M'Manus & Co., Reading. Office, 631 Chestnut street, Philadelphia. Built in 1836 ; 12 single puddling furnaces, 4 heating furnaces, one rotary squeezer, 3 trains of rolls, 30 nail machines and 2 railroad spike machines ; product, bar, band, hoop and skelp iron ; annual capacity, 5,500 net tons ; average yearly product, 5,000 tons. Plate mill built in 1862 ; 7 double puddling furnaces, 4 heating furnaces, one steam hammer and 4 trains of rolls ; product, sheet, plate and bar iron ; annual capacity, 6,800 net tons ; average yearly product, 6,000 tons.

Stony Creek iron works, Schall & Co., Norristown, Montgomery county. Built in 1849 ; 5 double puddling furnaces, 3 heating furnaces, 3 trains of rolls and 29 nail machines ; product, bar, sheet, boiler plate and nails. No nails made in 1873.

Schuylkill iron works, Alan, Wood & Co., Conshohocken, Office, 519 Arch street, Philadelphia. Built in 1858 ; 16 double puddling furnaces, 12 heating and 4 grate furnaces, 7 trains of rolls, one hammer, and 2 rotary squeezers ; product, sheet and plate iron ; annual capacity, 15,000 net tons.

Schuylkill Haven rolling mill and Spike manufacturing company, Schuylkill Haven, Schuylkill county. Put in operation, November 1, 1873 ; 2 heating furnaces, one 10-inch train of rolls, and one railroad spike machine ; product, merchant bar iron, small T rails, and railroad spikes ; annual capacity, 2,500 net tons.

Stewart & Co., South Easton, Northampton county. Built in 1837; product, wire.

Tamaqua rolling mill, Tamaqua rolling mill company, Tamaqua, Schuylkill county. Built in 1865; 2 double and 3 single puddling furnaces, 2 heating furnaces, and 2 trains of rolls, product, merchant bar iron and mine T rails; annual capacity, 3,000 net tons; average yearly production, 2,500 tons.

Thorndale iron works, Wm. L. Bailey & Co., Thorndale iron works. Chester county. Built in 1847; one double puddling and two single puddling furnaces, 2 heating furnaces, 2 trains of rolls and one hammer; product, boiler plate iron; annual capacity, 3,000 net tons; average make, 2,250 tons.

Tioga rolling mill, Bulkely & Noblit, Germantown Junction, Philadelphia. Put in operation January 1, 1873; one heating furnace, one train of rolls, and 3 spike machines; product, bar iron and spikes; annual capacity, 2,500 net tons.

Valley iron works, C. E. Pennock & Co., Coatesville, Chester county. Built in 1837; product plate iron.

Viaduct iron works, Steele & Worth, Coatesville. Built in 1838; 3 single puddling furnaces, 8 heating furnaces, 4 trains of rolls and one hammer; product, all kinds of boiler, fire box, boat, tank, tube and flue iron, and patent straightened bridge plates; annual capacity, 11,000 net tons; average make, 8,000 tons.

Winch, Corydon, Canal street, Kensington, Philadelphia. One double and two single puddling furnaces, 2 heating furnaces, 4 trains of rolls, 12 spike machines, and 4 rivet machines; steam power; product, spike and rivet iron; average annual product, 3,000 net tons.

#### CENTRAL DISTRICT.

Altoona iron works, Altoona iron company, Altoona, Blair county. First put in operation in April, 1873; one double and 6 single puddling furnaces, 3 heating furnaces, 3 trains of rolls, and one rotary squeezer; product, bar iron; annual capacity, 5,000 net tons.

Berwick rolling mill, Berwick rolling mill company, Berwick, Columbia county. Built in 1872; 5 single puddling furnaces, 2 heating furnaces, and 3 trains of rolls; product, bar iron; annual capacity, 3,600 net tons.

Central iron works, Harrisburg, Dauphin county. Built in 1853; 4 single puddling furnaces, 2 heating furnaces, one train of rolls, and one hammer; product, boiler plate and tank iron; annual capacity, 3,000 net tons; average annual production, 2,000 tons.

Chesapeake nail works, Chas. L. Bailey & Bro., Harrisburg, Dauphin county. Built in 1867; 14 single puddling furnaces, 3 heating furnaces, 2

trains of rolls, and 66 nail machines; product, nails; annual capacity, 7,500 net tons; average annual production, 6,700 tons.

Chiques rolling mill, Becker & Reinhold, Chiques, Lancaster county. Built in 1865; one single and 2 double puddling furnaces, one heating furnace, and 2 trains of rolls; product, bar iron; annual capacity, 3,000 net tons; average yearly production, 1,500 tons.

Codorus steel works, York County iron and steel company, York, York county; Built in 1869; 10 single puddling furnaces, 2 heating furnaces, 2 trains of rolls, and one hammer; product, principally puddled steel for heading iron rails; annual capacity, 7,500 net tons.

Columbia steel and iron works, Maitland, Audenreid & Co., Columbia. Office, N. E. corner Third and Dock streets, Philadelphia. Built in 1854; product, rails, bars, and rods.

Co-operative iron and steel works, Danville, Montour county. Built in 1871; 8 single puddling furnaces, one 18-inch puddle train, and one squeezer; product, puddled iron, or muck bar; annual capacity, 5,500 net tons. Now building a rail mill, 100 feet by 194 feet, to contain 4 heating furnaces, and one 18-inch rail train; immediate capacity to be 10,000 tons, but the machinery will be fitted for 25,000 tons, needing only additional heating furnaces; to be completed in 1874.

Crescent iron and nail works, Heilman & Co., Cogan Station, Lycoming county. Built in 1842; 2 single puddling furnaces, one heating furnace, one train of rolls, and 7 nail machines; water power; product, bar iron and nails.

Danville iron works, William Faux, proprietor, Danville. Built in 1870; 4 heating furnaces, and one train of 16-inch rolls; product, T rails from 16 to 56 lbs. per yard, inclusive; annual capacity, 9,000 net tons.

Duncannon iron company, Duncannon, Perry county. Office, 122 Race street, Philadelphia. Built in 1838; 11 single puddling furnaces, 5 heating furnaces, 4 trains of rolls, and 52 nail machines; steam and water power; product, bar iron and nails.

Eagle iron works, C. Curtin & Co., Roland, Centre county. Built in 1810; one single puddling furnace, one puddling machine, one heating furnace, 6 forge fires, 2 trains of rolls and one hammer; water power; product, bar iron and charcoal blooms and slabs; annual capacity, 2,000 net tons; average annual production 1,200 tons.

Hancock steel and iron company, Danville, Montour county. Built in 1847; product, rails. Formerly National iron company.

Harrisburg nail works, Harrisburg. Works at West Fairview, Cumberland county. Built in 1810; 9 double puddling furnaces, 6 heating furnaces, 2 trains of rolls and 73 nail machines; steam and water power; product, nails and muck bars; annual capacity, 7,500 net tons of nails and



2,000 tons of muck bars; average yearly production, 6,300 tons of nails and 1,500 tons of muck bars.

Hollidaysburg iron works, Hollidaysburg iron and nail company, Hollidaysburg, Blair county. Built in 1860; 8 single puddling furnaces, 3 heating furnaces, three trains of rolls and 13 nail machines; product, bars, light T rails and nails; annual capacity, 3,500 net tons; average annual production, 2,000 tons.

Howard iron works, Lauth, Thomas & Co., Howard, Centre county. Built in 1840; 6 single puddling furnaces, 2 heating furnaces and one 16-inch train of rolls, one 12-inch and one 8-inch train of bar and guide rolls and one rotary squeezer; water power; product, all sizes merchant bar, band, hoop and guide iron; annual capacity, 3,600 net tons finished iron. The establishment includes a large warehouse, in which a stock of 300 tons of all kinds of bar iron is constantly kept on hand.

Juniata rolling mill, Hollidaysburg iron and nail company, lessees, Hollidaysburg. Built in 1866; 9 single puddling furnaces, 3 heating furnaces, 2 trains of rolls, 30 nail machines and one hammer; product, sheets and nails; annual capacity, 3,500 net tons; average annual production, 2,000 tons.

Lackawanna iron works, Lackawanna iron and coal company, Scranton, Luzerne county. Built in 1847; 85 single puddling furnaces, 19 heating furnaces and 7 trains of rolls; steam and water power; product, railroad iron and various sizes of merchant iron; annual capacity, 58,500 net tons rails, and 2,500 tons merchant iron; average monthly production, 4,480 tons rails. The company is building a new mill of same capacity as the old one, to be completed in 1874, and has begun to build Bessemer steel works.

Lancaster manufacturing company, Lancaster. Put in operation in April, 1873; 8 single puddling furnaces, 3 heating furnaces, one 18-inch puddle train, one 16-inch bar train and one 8-inch guide train of rolls and 2 hammers; product, bar, iron splice bar, axles, bolts, spikes and forgings; annual capacity, 3,600 net tons.

Lancaster rolling Mill, Manuel, M'Shain & Co., Hempfield, Lancaster county. Office, 140 Walnut street, Philadelphia. Bought by present parties and enlarged in June, 1872; one double and 5 single puddling furnaces, 2 heating furnaces, 2 trains of rolls and one hammer; product, merchant bar and guide iron; annual capacity 3,000 net tons.

Lebanon rolling mill, Light & Brothers, Lebanon. Built in 1867; 4 double puddling furnaces, 6 heating furnaces, 5 trains of rolls and one hammer; product, plate, sheet and flue iron and muck bar; annual capacity 4,500 net tons; average make 3,000 tons.

Lochiel rolling mill company, Harrisburg. Built in 1865; merchant mill completed in November, 1871; 8 double and 4 single puddling furnaces, 8 heating furnaces for rails, 4 heating furnaces for the merchant mill and 4 trains of rolls, three 18 and one 16-inch; product, rails from 15 lbs. per yard upward, bar iron and splice bars; annual capacity 25,000 net tons rails, and 3,000 tons merchant iron and splice bars.

Logan works, Logan iron and steel company, Lewistown, Mifflin county. Office, 218 South Fourth street, Philadelphia. Built in 1869; forge very old; 3 single puddling furnaces, 3 heating furnaces, one train of rolls, one steam hammer and 3 water hammers; steam and water power; product, hammered and rolled bar and blooms. The company has a plate mill not now in use, containing one 30-inch train of rolls, 3 heating furnaces, &c. Another part of the establishment, comprising a large steam hammer and a tire mill, is rented to the Crucible steel works.

Milesburg iron works, M'Coy & Linn, Milesburg, Centre county. Built in 1830; 3 single puddling furnaces, 2 heating furnaces, 3 trains of rolls and 2 hammers; steam and water power; product, all sizes bar iron, spring and soft rods and spring and soft wire of all numbers; annual capacity 3,000 net tons; average yearly production 1,576 tons.

Milton rolling mill, Milton iron company, Milton, Northumberland county. Put in operation December 1, 1872; 6 puddling furnaces, one heating furnace and 3 trains of rolls; product, round, square and flat bar iron; annual capacity 2,000 net tons; average yearly production 1,500 tons.

Northumberland iron works, Van Alen & Co., Northumberland, Northumberland county. Built in 1867; 7 single puddling furnaces, one heating furnace, one train of rolls and 21 nail machines; product, nails, nail plate, muck and scrap bars; annual capacity 4,800 net tons muck bar, 4,000 tons nail plate, 2,250 tons nails.

Paxton rolling mills, M'Cormick's estate, Harrisburg. Built in 1869; 5 double puddling furnaces, 5 heating furnaces, 3 trains of rolls and one hammer; product, boiler, skelp and tank iron; annual capacity 8,750 net tons.

Pennsylvania iron works, Waterman & Beaver, Danville. Office, 407 Library street, Philadelphia. Built in 1845; 22 double and sixteen single puddling furnaces, 15 heating furnaces, 4 trains of rolls and one hammer; product, railroad iron; annual capacity, 40,320 net tons; average yearly production, 27,242 tons.

Pennsylvania steel works, Pennsylvania steel company, Steel Works P. O., Baldwin Station, Dauphin county. Office, 216 South Fourth street, Philadelphia. Bessemer steel works built in 1866-7; two 5-ton converters, with cupolas and hydraulic machinery; capacity, 120 tons steel every 24 hours. Rolling mill built in 1867-8, and enlarged since; daily capacity, single turn, 100 tons steel rails. Hammer mill contains 6 and 12-ton ham-

mers, the larger turning out 75 to 80 tons of blooms and forgings every 24 hours. Two Siemens's furnaces, capacity 25 to 30 tons daily. Heating furnaces sufficient for the entire make. Product, steel ingots, forgings, rails of light and heavy sections, street rails, and railroad axles, crossings, frogs and switches. Capacity, 36,000 gross tons per annum.

Portage nail works, John Musselman, Duncansville, Blair county. Again started in March, 1874. Built in 1839; 6 single puddling furnaces, 2 heating furnaces, 3 trains of rolls and 8 nail machines; product, bar iron and nails.

Susquehanna iron works, Susquehanna iron company, Columbia. Three heating and 12 single puddling furnaces; product, bar iron.

Valentine & Co., Bellefonte, Centre county. Built in 1825; product, bars and rods.

Valentine iron company, Williamsport, Lycoming county. Built in 1873-4; 4 single puddling furnaces, 2 heating furnaces, 8 forge fires, one hammer and 3 trains of rolls; one 8 and two 15-inch trains; product, charcoal blooms, bars and wire rods; annual capacity, 4,000 tons

Van de Sand & Cap, Lebanon.

#### ABANDONED OR STANDING.

Colemanville rolling mill, Colemanville, Lancaster county. Old merchant mill; not in operation for several years, but will again be used upon the completion of the Columbia and Port Deposit railroad.

Juniata iron works, S. & B. R. Hatfield, Alexandria, Huntingdon county. Built in 1838; product, sheet, plate and bar iron; burned in 1868 and not rebuilt. The firm has a forge at the same place in operation.

Safe Harbor rolling mill, Reeves, Abbott & Co., Safe Harbor, Lancaster county. Built in 1848; 16 double and 2 single puddling furnaces, 8 heating furnaces, and 2 trains of rolls; product, railroad iron; has made 12,000 net tons of rails a year; has not made any rails since 1861, and the mill has not been in operation since 1865; upon the completion of a railroad, now in course of construction, this mill will in all probability again be used.

#### WESTERN DISTRICT.

American iron works, Jones & Laughlins, Pittsburg, Allegheny county. Built in 1852; 75 single puddling furnaces, 30 heating furnaces, 18 trains of rolls and 73 nail machines; product, bars, nails, hoops, railroad spikes, plates, sheets, cold-rolled shafting, and 8 to 40-lb. T rails; annual capacity, 50,000 net tons.

Anchor nail and tack works, Chess, Smyth & Co., Pittsburg. Built in 1837; 20 single puddling furnaces, 5 heating furnaces, 4 trains of rolls, 90



nail machines, 50 tack machines, and one hammer; product, nails, tacks and brads; annual capacity, 6,000 net tons.

Atlantic iron and nail works, Kimberly, Carnes & Co., Sharon, Mercer county. Twenty-three boiling and 6 heating furnaces, and 40 nail machines; product, bar, plate, hoop, rod iron and nails; annual capacity, 8,000 net tons.

Birmingham iron works, M'Knight, Duncan & Co., Pittsburg. Built in 1836; 20 single puddling furnaces, 5 heating furnaces, and 5 trains of rolls; product, merchant bar iron, rounds, squares, ovals, half ovals, bands, hoops, etc.; annual capacity, 10,000 net tons; average yearly production, 9,000 tons.

Brady's Bend iron company, Brady's Bend, Armstrong county. Office, 54 Cliff street, New York. Built in 1842; under present management from 1862; 28 single puddling furnaces; 12 heating furnaces, and 3 trains of rolls; product, railroad iron; annual capacity, 20,000 net tons; average yearly production, 11,000 tons.

Byers, M'Cullough & Co., Pittsburg. Built in 1862-3; 25 puddling furnaces, 5 heating furnaces, 3 trains of rolls, and a pipe mill; product, bars, plates, sheets and tubing.

Cambria iron works, Cambria iron company, Johnstown, Cambria county. Office, 218 South Fourth street, Philadelphia. Built in 1853; 42 double puddling furnaces, 28 heating furnaces, one hammer, and the following trains of rolls; 21-inch rail mill, 5 sets; 18-inch rail mill, 2 sets; 12-inch rail mill, 3 sets; 16-inch merchant mill, 3 sets; 22-inch puddle mill, 6 sets; 21-inch puddle mill, 6 sets, and 30-inch blooming mill, one set. Total, 26 sets. Bessemer steel works has two 5-ton converters, and all the appliances for making steel rails. Product, iron and steel rails; capacity per annum, 100,000 gross tons, average yearly make, 80,000 to 90,000 gross tons.

Clinton and Millvale rolling mills, Graff, Bennett & Co., Pittsburg. Built about 1841; 41 single puddling furnaces, 6 Danks's puddling machines, 17 heating furnaces, 11 trains of rolls, 41 nail machines and one hammer; product, bar, sheet, plate and nails; annual capacity, 20,000 net tons; average make, 20,000 tons.

Eagle rolling mill, Mullen & Maloney, Pittsburg. Built in 1850; product, bar and sheet iron. Formerly James Wood's Sons & Co.

Erie rolling mill, Erie rolling mill company, Erie, Erie county. Put in operation November 1, 1873; 11 single puddling furnaces, 4 heating furnaces and 3 trains of rolls, one 8, one 10 and one 15-inch; product, bar iron; annual capacity, 6,000 net tons.

Etna rolling mill, Spang, Chalfant & Co., Pittsburg. Built in 1828; new mill added in 1873-4; 3 trains of 3 high rolls, 7 Siemen's double puddling

(gas) furnaces and 2 Siemen's heating (gas) furnaces; product, sheets, plates, rods and tubing.

Fort Pitt iron and steel works, Reese, Graff & Woods, Pittsburg. Organized in 1842; 25 boiling furnaces, 14 heating furnaces, one 20-inch muck mill, one 16-inch bar mill, 3 8-inch guide mills, one 9-inch and one 12-inch steel mill; one 20-inch plate and sheet mill, 2 converting furnaces, 7 steam hammers, one squeezer, 4 shingle strip machines, one horse-shoe factory, 1 spring factory, 12 coke steel-melting holes, and 2 Siemens's 24-pot steel-melting furnaces; product, plates, sheets, guides, bars, and German and cast steel; annual capacity, 12,000 net tons merchant iron, 2,000 tons German steel, and 4,000 tons cast steel.

Glendon rolling mill, Dilworth, Porter & Co., Pittsburg. Built in 1857; 24 single puddling furnaces, 4 heating furnaces, 9 railroad spike machines and 5 trains of rolls, two 8, one 10, and two 16-inch trains; product, railroad and marine spikes, railroad chairs, and fish bars and bolts; annual capacity, 10,500 net tons; average make, 8,000 tons.

Greenville rolling mill, Greenville, Mercer county. Built in 1871; two heating furnaces, 2 double and 5 single puddling furnaces, and 3 trains of rolls; one 16-inch bar, one 16-inch muck and one 8-inch hoop; product, bar and hoop iron, principally hoop; annual capacity, 5,000 net tons.

Iron City and Siberian iron works, Rogers & Burchfield, Pittsburg. Iron City mill at Apollo, Armstrong county; built in 1850; 9 single puddling furnaces, 5 heating furnaces and 6 trains of rolls. Siberian mill at Leechburg, Armstrong county; built in 1872; 6 single puddling furnaces, 6 heating furnaces, 6 trains of rolls, 2 steam hammers, one refinery and 2 knobbling fires; this mill is run with gas for fuel from a well 1,200 feet deep, furnishing all the fuel required for puddling, heating and making steam, not one bushel of coal having been used there for the past six months. Product, sheet iron and charcoal terne plates; annual capacity, 6,000 net tons; average make, 5,500 tons.

Juniata iron works, Shoenberger & Co., Pittsburg, Pa. Built in 1824; 29 single puddling furnaces, 11 heating furnaces, 7 trains of rolls, and 92 nail machines; product, nails, sheet and plate iron, horse and mule shoes, and horse-shoe bar; annual capacity, 15,000 net tons.

Kensington rolling mill, H. Lloyd, Son & Co., Pittsburg. Built in 1828; 16 single puddling furnaces, 6 heating furnaces, and 4 trains of rolls; product, bar, sheet and plate iron, flat rails, and T rails from 12 to 30 lbs. to the yard; annual capacity, 6,000 net tons; average yearly production, 5,000 tons.

Keystone iron works, Glass, Neely & Co., Pittsburg. Built in 1865; 19 single puddling furnaces, one scrap and 5 heating furnaces, and 4 trains of

rolls ; product, all sizes round, square, and flat bar iron, hoop, plate, and sheet iron ; annual capacity, 11,000 net tons.

M'Keesport iron works, Wm. D. Wood & Co., M'Keesport, Allegheny county. Built in 1851 ; 10 forge fires, 7 single puddling furnaces, 16 heating furnaces, 4 trains of rolls, and 2 hammers ; product, sheet iron, both common American and planished in imitation of Russian ; annual capacity, 4,000 net tons ; average make, 3,500 tons.

Middlesex rolling mill company, Middlesex, Mercer county. Put in operation June 1, 1873 ; 10 single puddling furnaces, one heating furnace, and 2 trains of rolls : one 10 and one 18 inch ; product, merchant bar iron ; annual capacity, 5,000 net tons.

Monongahela and Allegheny iron works, Lewis, Oliver & Phillips, Pittsburg. Built in 1866 and 1864, respectively ; 49 single puddling furnaces, 8 heating furnaces, and 8 trains of rolls ; product, bar, round, square and oval bands, and peculiar and odd shapes ; annual capacity, 20,000 net tons.

Newcastle iron company, Newcastle, Lawrence county. Built in 1873 ; 10 single puddling furnaces, 5 heating furnaces, 3 trains of rolls, and one hammer ; product, sheet and plate iron ; annual capacity, 6,000 net tons ; average annual make, 4,500 tons.

Old Fort iron works, Jacobs & Jackson, Brownsville, Fayette county, Completed December 1, 1873 ; 6 single puddling furnaces, 3 heating furnaces, 2 trains of rolls, 2 spike and bolt machines, 2 hammers, and one squeezer ; product, bar iron, car axles, and general forging, 20 lb. T rails, spikes and bolts ; yearly capacity, 9,000 net tons.

Onondago iron and coal company, Newcastle, Lawrence county. Product, bars, rods, and nails.

Ormsby iron works, Wharton, Brothers & Co., Pittsburg. 20 puddling furnaces, 5 heating furnaces, and 4 trains of rolls ; product, bar, rod, guide, and hoop iron.

Pennsylvania iron works, Everson, Macrum & Co., Pittsburg. Pittsburg mill built in 1844 ; branch mill at Scottdale, Westmoreland county, built in 1873 ; 30 puddling furnaces, 10 heating furnaces, and 7 trains of rolls ; product, bars, rods, sheets and plates ; the latter mill makes fine sheet iron and muck bar.

Pittsburg bolt works, Pittsburg bolt company, Pittsburg.

Pittsburg forge and iron company, Pittsburg. Built in 1864 ; 15 single puddling furnaces, 7 heating furnaces, 3 trains of rolls, and 3 hammers ; product, (1) bar, rod, band, hoop, oval and half oval iron, fish plates, and track bolts, and (2) hammered car and locomotive axles, railroad, steamboat and machine forgings ; capacity, yearly, (1) 13,000 net tons, (2) 2,000 tons ; average yearly production, (1) 8,500 tons, (2) 1,500 tons.



Pittsburg iron works, Jacob Painter & Sons, Pittsburg. Built in 1833; 50 single puddling furnaces, 14 heating furnaces, five 8-inch trains of rolls, two 10-inch, one 12-inch, one 16-inch, and two 20-inch muck rolls; product, principally oil, whisky and trunk hoops; also hoops for pails, tubs and wooden ware, lock iron, saws, bands and hinge iron; annual capacity, 19,000 net tons; average yearly production, 17,000 tons.

Sable iron and nail works, Zug & Co., Pittsburg. Built in 1845; 34 single puddling furnaces, 11 heating furnaces, 6 trains of rolls and 55 nail machines; product, merchant bar iron, including heavy sizes flat bars and squares made by the universal rolls, and nails; annual capacity, 15,000 net tons.

Sharon rolling mills, Westerman iron company, Sharon, Mercer county. Built in 1862; 29 single puddling furnaces, 12 heating furnaces, 7 trains of rolls, and 46 nail machines; product, bar, hoop and sheet iron, railroad and boat spikes, light T rails and nails; annual capacity, 15,000 net tons.

Shenango iron works, Reis, Brown & Berger, Newcastle, Lawrence county. Built in 1863; 27 single puddling furnaces, 9 heating furnaces, 5 trains of rolls and 55 nail machines; product, bar, sheet, band, wrought spikes and nails; annual capacity, 15,000 net tons; average yearly make, 12,000 tons.

Sligo iron works, Phillips, Nimick & Co., Pittsburg. Built in 1825; product, bar, plate and sheet iron.

Soho iron mills, Moorhead & Co., Pittsburg; 5 trains of rolls; product, sheets, plates and galvanized iron.

Solar iron works, Wm. Clark & Co., Pittsburg; 16 puddling furnaces, 5 heating furnaces and 5 trains of rolls; product, hoop and band iron.

Star iron works, Lindsay & M'Cutcheon, Pittsburg. Built in 1862; 14 puddling furnaces, 4 heating furnaces and 4 trains of rolls; product, hoop iron of all sizes; annual capacity, 8,000 net tons.

Stewart iron works, Stewart iron company, Sharon, Mercer county. Built in 1870; 16 single puddling furnaces, one hammer, and 2 trains of rolls, each 16-inch; product, muck bar and blooms.

Superior rolling mill, Harbaugh, Mathias & Owens, Pittsburg. Built in 1865; product, rails.

Thompson, J. Edgar, steel works, Carnegie, M'Candless & Co., Brad-dock's Station, Allegheny county. Office at Pittsburg. Building in 1874; to embrace two 5-ton converters, and appliances for rolling Bessemer steel rails; to be completed early in 1875.

Union forge and iron mills, Wilson, Walker & Co., Pittsburg.

Union iron mills, Carnegie, Kloman & Co., Pittsburg. Built in 1862; 21 single puddling furnaces, 10 heating furnaces, 7 trains of rolls and one

hammer ; product, beams, channels, tees, angles, plates and bar iron ; annual capacity, 27,000 net tons.

United States iron and tin plate works, U. S. iron and tin plate company, M'Keesport, Allegheny county. Office at Pittsburg. Built in 1873-4 ; 4 double puddling and 4 heating furnaces, 3 trains of rolls and one hammer ; product, tin plate and all kinds of sheet iron ; annual capacity, 8,000 net tons.

Valley rolling mill, Calwell, Mosgrove & Co., Kittanning, Armstrong county. Built in 1848 ; 16 single puddling furnaces, 5 heating furnaces, 3 trains of rolls, 22 nail machines and one squeezer ; product, rod and sheet iron, nails and spikes ; annual capacity, 7,000 net tons ; idle since March, 1873.

Vesuvius iron works, Lewis, Bailey, Dalzell & Co., Pittsburg. Built in 1846 ; 24 single puddling furnaces, 10 heating furnaces, 6 trains of rolls, and 50 nail machines ; product, bar and sheet iron, rods, hoops and nails ; annual capacity, 12,000 net tons.

Wayne iron and steel works, John H. Brown & Co., Pittsburg. Built in 1829 ; product, bar iron, rod, hoop, sheet, tank, light T rails, splice bars, boiler plate, rivets and cast steel.

Wood's Sons (James) & Co., Pittsburg. Built in 1850 ; product, bar and sheet iron. Recently sold to Malone, Mullen & Co.

#### STANDING.

Wheatland rolling mills, trustees J. T. & C. A. Wood, Wheatland, Mercer county. Built in 1872 ; 12 double puddling furnaces, 14 heating furnaces and 3 trains of rolls ; steam power ; product, railroad, bar and sheet iron ; annual capacity, 45,000 net tons ; average yearly production, 30,000 tons.

#### PROJECTED.

Connellsville, Fayette county. Rolling mill and nail factory.

Dunbar, Fayette county.

### BESSEMER STEEL RAIL MILLS.

A COMPLETE LIST OF ROLLING MILLS IN THE UNITED STATES WHICH MANUFACTURE  
BESSEMER STEEL RAILS.

Rensselaer iron works, John A. Griswold & Co., Troy, New York. Two five-ton converters and one one-and-a-half ton converter.

Cambria iron works, Cambria iron company, Johnstown, Pa. Two five-ton converters.

Pennsylvania steel works, Pennsylvania steel company, Baldwin Station, near Harrisburg, Pa. Two five-ton converters and a new plant, with four five-ton converters, in course of erection.

Newburgh rolling mill, Cleveland rolling mill company, Newburgh, Ohio. Four five-ton converters.

North Chicago rolling mill, North Chicago rolling mill company, Chicago, Illinois. Two five-ton converters.

Union rolling mill, Union rolling mill company, Chicago, Illinois. Two five-ton converters.

Joliet iron and steel works, Joliet iron and steel company, Joliet, Illinois. Two five-ton converters. These works made their first blow January 26, 1873, and their first steel rail March 15, 1873.

Bethlehem rolling mill, Bethlehem iron company, Bethlehem Pa. Two five-ton converters. These works made their first blow on Saturday, October 4, 1873, and their first steel rail on Saturday, October 11, 1873.

J. Edgar Thompson steel works, Carnegie, M'Candless & Co., Pittsburgh, Pa. Works at Braddock's Field are now being built, and will contain two five-ton converters. They are expected to be entirely finished early in 1875.

Lackawanna iron works, Lackawanna iron and coal company, Scranton, Pa. Now building steel works to contain two five-ton converters. The foundations were laid June 16, 1874, and the walls are expected to be ready for the roof by December 1, 1874.

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### STEEL WORKS OF PENNSYLVANIA.

Black Diamond steel works, Park, Brother & Co., Pittsburgh. Established in May, 1862; 6 carbonizing furnaces, 72 melting furnaces and 6 trains of rolls; product, edge-tool steel, homogeneous boiler-plate steel, spring steel, agricultural implement steel, and cast and German plow steel; annual capacity, 12,000 net tons.

Blair iron and steel company, Pittsburgh. Works at Glenwood, on the Monongahela river. Homogeneous iron and steel made from the ore by Thomas S. Blair's direct process.

Codorus steel works, York County iron and steel company, York, York county. *See Rolling Mills.*

Crescent steel works, Miller, Barr & Parkin, Pittsburgh. Built in 1867; 4 heating furnaces, 2 trains of rolls, one 12 and one 9-inch, 3 steel cementing furnaces, 24 steel melting holes, and four 24-pot Siemens's melting furnaces and 6 hammers; product, hammered and rolled bar steel and cast,



spring and edge-tool steel ; annual capacity, 4,000 net tons ; average make, 3,000 tons.

Crucible steel works, Logan, near Lewistown, Mifflin county. Office, 218 South Fourth street, Philadelphia. Twenty-eight 4-pot melting holes, 5 heating furnaces and one tire mill ; product, locomotive cast steel tire, frogs, crossings, forgings, steel castings, etc.

Fairmount steel works, Alexander Foster & Co., Twenty-fourth street and Pennsylvania avenue, Philadelphia. Built in 1866 ; 3 heating furnaces, six 4-pot melting furnaces and 3 steam hammers ; product, machinery steel, frog plates and points, cast spring steel, and all kinds of steel forgings ; annual capacity, 750 net tons ; average make, 500 tons.

Fort Pitt iron and steel works, Reese, Graff & Woods, Pittsburg. *See Rolling Mills.*

Hussey cast steel works, Pittsburg.

Hussey, Wells & Co., Pittsburg. Built in 1859 ; 7 24-pot melting furnaces and 9 hammers ; product, fine tool steel, spring steel, boiler steel and agricultural steel ; annual capacity, 13,000 net tons.

Kensington iron and steel works, James Rowland & Co., 920 North Delaware avenue, Philadelphia. *See Rolling Mills.*

Keystone saw, tool, steel and file works, Henry Disston & Sons, Front and Laurel streets, Philadelphia—Branch works at Tacony, Philadelphia. Founded in 1840, and commenced the manufacture of steel in 1854 ; now running 42 melting furnaces, 2 trains of rolls, 6 heating furnaces and one hammer ; product, principally saw steel of every description, also, tool steel, homogeneous steel, steel for engravers' plates, etc. ; annual capacity, 2,500 net tons.

La Belle steel works, Reiter, Sutton & Co., Pittsburg. Built in 1863 ; 4 25-ton converting furnaces, 4 open-hearth refining furnaces, 4 puddling furnaces, 7 heating furnaces, 12 cast steel melting furnaces, 5 hammers and 3 trains of rolls, one 20-inch train, one 16-inch and one 10-inch ; product, cast and German plow steel, agricultural steel of every description, cast and German spring steel, cast machinery steel, and cast and German steel tire ; annual capacity, 1,000 net tons cast steel, 2,600 net tons of German plow and spring steel, and 2,400 net tons of steel of other descriptions. Total, 6,000 net tons.

M'Haffie steel works, M'Haffie Direct Steel casting company, Lamokin, Delaware county. Office at Evelina and Levant streets, Philadelphia. Make castings from pig iron which they afterwards convert into steel by a secret process.

Midvale steel works, Nicetown, Philadelphia. Built in 1868 ; 10 heating furnaces, one 23-inch train rolls, 3 hammers, one cementing furnace, and 50 steel-melting holes ; product tool, steel, crow bars, &c. ; locomotive tire

mill not now in use. These works were formerly known as the William Butcher steel works, Moore, Davis, DeHaven & Co., Pittsburg. Nellis, A. J., Pittsburg.

Oxford iron and steel works, William & Harvey Rowland, Frankford, Philadelphia. Built in 1842, and very much enlarged recently, especially in 1873; 3 heating furnaces, 3 trains of rolls, one hammer; 4 converting furnaces, using wood exclusively, and 24 2-pot crucible steel melting furnaces convert iron into steel, re-roll Norway iron, slit Norway nail rods, and make elliptic springs, sheet cast steel, cast spring steel, machinery and plow steel, and tire and sleigh steel; annual capacity, 4,500 net tons; average make, 2,500 tons.

Philadelphia steel works, William Baldwin, Frankford, Philadelphia. Built in 1865; 4 heating furnaces; 6 steam drop hammers and one tilt hammer, one cementing furnace, not now in use, and 32 steel-melting holes; product, cast and shear steel, frog steel, railroad and locomotive forgings, sledges, hammers, tools, etc.; annual capacity, 1,200 tons.

Pittsburg steel casting company, Pittsburg. Built in 1871; 19 steel-melting holes and one Siemen's (gas) furnace of 6 tons daily capacity; product, steel castings.

Pittsburg steel works, Anderson & Woods, Pittsburg. Built in 1845; product, cast and German plow steel, plate, and best edge tool steel; annual capacity 7,000 net tons.

Sheffield steel works, Singer, Nimick & Co., Pittsburg. Built in 1848; in mill, 6 puddling and 6 knobbling furnaces, one 18-inch train of rolls, and one 4½-ton steam hammer; four 24-pot Siemens's gas furnaces, 30 melting furnaces, and one 5-ton open hearth-furnace; annual capacity 12,000 net tons of cast steel; in steel converting department, 8 furnaces, annual capacity, 5,500 net tons; in finishing mill, one 22-inch, 3 high sheet and plate train, one 16-inch and one 10-inch bar train, 11 heating furnaces, and 10 hammers; the new plate mill has 4 sets of 28-inch rolls, 4 sets of 20-inch rolls, and 6 heating furnaces; product, steel plates, tool steel, saw steel, and all other kinds of steel.

Wayne iron and steel works, Brown & Co., Pittsburg. *See Rolling Mills.*

#### PROJECTED.

Isaac Jones, Sons & Co., M'Keesport, Allegheny county.

## BLOOMARIES OF PENNSYLVANIA.

Barre forge, Dorris & Co., Barre forge, Huntingdon county. Four forge fires ; product, charcoal blooms ; annual capacity, 900 net tons.

Carlisle iron works, C. W. & D. V. Ahl, Boiling Springs, Cumberland county. Built in 1791 ; 5 forge fires and one hammer ; water power ; product, charcoal blooms ; annual capacity, 2,400 net tons ; average make, 2,200 tons.

Castle Fin forge, J. M. Bowman, Castle Fin, York county. Four fires and 1 run-out ; 2 hammers ; water power ; product, charcoal blooms ; annual capacity, 1,000 net tons ; average yearly make, 750 tons.

Charming forge, W. & B. F. Taylor, Womelsdorf, Berks county. Works very old ; 5 fires, one heating furnace, one refinery, and 2 hammers ; steam power ; product, blooms and hammered bar iron ; annual capacity, 1,000 net tons ; average make, 700 tons.

Cold Spring forge, S. H. Hicks & Brothers, Tyrone, Blair county. Product, blooms.

Colemanville forge, Edmund Smith, Colemanville, Lancaster county. Built in 1828 ; water power ; annual capacity, 500 net tons blooms.

Cove forge, John Royer, Springfield furnace, Blair county. Two forge fires and one run-out ; product, charcoal blooms ; annual capacity, 450 net tons

Cove forge, Wm. M'Ilvain & Sons, Duncannon, Perry county. Built in 1864 ; 5 fires, one refinery, and one hammer ; blast operated by water power, and hammer by steam ; product, charcoal blooms ; annual capacity, 1,200 net tons ; average yearly make, 900 tons.

Ellendale forge, Spang & Wanner, Ellendale forge, Dauphin county. Rebuilt in 1872 ; 5 fires, one run-out for coke, and one hammer ; water power ; product, anthracite and charcoal blooms ; annual capacity, 1,200 net tons ; average make, 950 tons.

Ellwood forge, J. B. Seidel & Sons, Ellwood, Schuylkill county. Built in 1863 by Dr. Geo. N Eckert, and bought in April, 1874, by present owners ; 4 fires and one run-out fire ; product, charcoal blooms ; annual capacity, 1,250 net tons.

Etna forge, Geo. D. Isett & Bro., Yellow Springs, Blair county. Four forge fires ; product, charcoal blooms.

Franklin and Sarah forges, assignees of Essington Hammond, Sarah, Blair county. Four forge fires ; product, charcoal blooms ; annual capacity, 900 net tons.

Exeter forge, Gottlieb Moyer, Reading, Berks county. Product, blooms.

Juniata forge, J. R. Hunter & Co., Petersburg, Huntingdon county.



Four forge fires and one hammer ; water power ; product, charcoal blooms ; annual capacity, 800 net tons.

Juniata iron works, S. & B. R. Hatfield, Alexandria, Huntingdon county. Built in 1847 ; 4 fires and one 4-tuyere run-out, and a puddling forge, with 3 single puddling furnaces ; water power ; product, charcoal blooms, made into boiler plate at Brandywine rolling mills, Coatesville, Pa. ; annual capacity, 950 net tons ; average annual make, 850 tons.

Liberty forge, Mumma & Boyer, Lisburn, Cumberland county. Product, blooms.

Logan works, Logan iron and steel company, Lewistown, Mifflin county. Office, 218 South Fourth street, Philadelphia. Forge built about 1810 ; 4 charcoal fires, one run-out for coke, and 2 hammers ; steam and water power ; product, charcoal blooms.

Mainville forge, C. E. Pennock & Co., Mainville, Columbia county. Built in 1824 ; one hammer, 3 forge fires, and one run-out ; water power ; product, charcoal blooms ; annual capacity, 800 net tons.

Martic forge, Potts & Davis, Colemanville, Lancaster county. Four fires ; water power ; product, charcoal blooms ; annual capacity, 1,000 net tons ; average annual make, 600 tons.

Mary Ann forge, B. F. Morret, Downingtown, Chester county. Built in 1806 ; 3 fires and one hammer ; water power ; product, blooms ; annual capacity, 720 net tons.

Milesburg iron works, M'Coy & Linn, Milesburg, Centre county. Built in 1800 ; product, blooms.

Monroe forge, Spang & Wanner, Union forge, Lebanon county. Four fires and one run-out ; water power ; product, anthracite and charcoal blooms ; annual capacity, 850 net tons ; average make, 650 tons.

Mont Alto forge, Mont Alto iron company, G. W. Wiestling, superintendent, Mont Alto, Franklin county. Product, blooms.

Mount Airy forge, Thomas E. Williams, Shartlesville, Berks county. Built about 1840 ; water power ; product, blooms.

New Market forge, Light Brothers, Palmyra, Lebanon county. Product, blooms.

North Kiln forge, near by, has been idle for five years.

Perry forge, J. B. Seidel & Sons, Marysville, Perry county. Built in 1862 ; 5 fires and one run-out fire ; water power ; product, charcoal blooms ; annual capacity, 1,500 net tons ; average make, 1,150 tons.

Ringwood forge, Thomas J. Bailey, Penningtonville, Chester county. Very old works ; 3 forge fires and one run-out ; water power ; product, charcoal blooms.

Sadsbury forge, Charles Goodman & Brother, Penningtonville, Chester county. Works very old ; 3 forge fires and one run-out ; water power ; product, charcoal blooms.

Springton forge, Cornog & M'Ilvaine, Wallace, Chester county. Very old works ; 4 forge fires and one run-out ; water power ; product, charcoal blooms.

Tyrone forge, Lyon, Shorb & Co., Tyrone, Blair county. Product, blooms.

Union forge, Union forge company, Union Forge, Lebanon county. Very old works ; product, blooms ; annual capacity, 1,000 net tons ; average make, 700 tons.

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### THE COST OF IRON.

On the publication of a table compiled by Mr. Wm. E. S. Baker, of the Duncannon iron company, Secretary of the Eastern Ironmasters' Association, giving the cost of pig iron on furnace bank and of bar iron at mill, for a series of years, objection was made to the showing of it on the ground that no allowance had been made for interest on capital invested, and that the totals did not, therefore, fairly represent the cost of the iron in the years indicated. Mr. Baker, has accordingly revised the table, and added interest upon the value of the plant necessary to an average production, in which shape we publish it, as given in "The Iron Age."

## COST OF AMERICAN PIG AND BAR IRON.

AVERAGE cost per ton of pig iron on furnace bank, and of merchant bar in mill, from 1850 to 1874, inclusive. Compiled by  
Mr. Wm. E. S. Baker, Secretary of the Eastern Iron Masters' association.

## • AVERAGE COST OF ANTHRACITE PIG IRON, 1850 TO 1874—RUN OF FURNACE.

	1850.	1851.	1852.	1853.	1854.	1855.	1856.	1857.	1858.	1859.	1860.	1861.	1862.
Cost of ore to the ton of pig iron.....	\$5 75	\$5 44	\$5 55	\$5 97	\$6 65	\$7 51	\$7 50	\$7 75	\$7 66	\$7 08	\$7 45	\$7 35	\$7 08
Cost of coal to the ton of pig iron.....	3 70	3 36	3 65	3 23	3 53	4 63	3 90	3 89	4 06	3 26	3 49	3 26	3 68
Cost of limestone to the ton of pig iron.....	93	96	1 09	1 06	1 38	1 26	1 16	1 14	1 18	1 15	1 21	1 17	1 11
Cost of labor to the ton of pig iron.....	2 22	1 61	2 02	2 00	2 45	2 85	2 58	2 30	2 10	1 82	1 87	1 97	1 57
Cost of general contingencies.....	1 65	1 93	2 03	2 62	1 99	2 62	2 91	2 16	2 73	2 83	2 83	2 86	2 67
Cost at furnace bank.....	14 25	13 30	14 34	14 88	16 00	18 87	18 05	17 24	17 73	16 14	16 85	16 61	16 11
Add interest on capital invested, on a product of 6,000 tons.....	1 05	1 05	1 15	1 22	1 37	1 29	1 21	1 47	1 22	1 28	1 36	1 57	1 57
Total cost to the producer.....	15 30	14 35	15 49	16 10	17 37	20 16	19 26	18 71	18 95	17 42	18 21	18 18	17 68

	1863.	1864.	1865.	1866.	1867.	1868.	1869.	1870.	1871.	1872.	1873.	1874. Mar. 1.
Cost of ore to the ton of pig iron.....	\$7 49	\$9 12	\$13 13	\$12 19	\$11 71	\$10 92	\$11 86	\$12 96	\$12 67	\$13 64	\$14 87	\$14 75
Cost of coal to the ton of pig iron.....	3 42	5 41	9 66	7 55	7 44	7 11	7 41	7 08	8 59	7 28	7 45	7 90
Cost of limestone to the ton of pig iron.....	1 20	1 93	2 85	2 65	2 76	2 51	2 14	2 44	2 08	2 04	1 98	2 03
Cost of labor to the ton of pig iron.....	2 07	2 85	4 56	3 46	3 99	3 86	3 46	3 89	3 54	4 69	5 11	4 40
Cost of general contingencies.....	2 35	1 66	2 01	2 03	1 98	1 90	1 96	3 67	2 77	2 93	3 00	2 39
Cost of furnace bank.....	16 53	20 97	32 21	27 88	27 88	26 30	26 83	30 04	29 65	30 58	32 41	31 47
Add interest on capital invested, on a product of 6,000 tons.....	1 40	1 59	1 61	1 64	1 80	1 63	1 71	1 85	1 82	1 75	2 08	2 00
Total cost to the producer.....	17 93	22 56	33 82	29 52	29 68	27 93	28 54	31 89	31 47	32 33	34 49	33 47



## COST OF AMERICAN PIG AND BAR IRON—CONTINUED.

AVERAGE COST OF BAR IRON, 1850 TO 1874.

	1850.	1851.	1852.	1853.	1854.	1855.	1856.	1857.	1858.	1859.	1860.	1861.	1862.
Cost of pig iron to the ton of finished bar iron...	\$25 65	\$24 90	\$25 71	\$25 25	\$42 17	\$42 64	\$32 84	\$33 34	\$30 61	\$26 54	\$25 61	\$25 35	\$24 36
Cost of coal to the ton of finished bar iron.....	5 70	5 61	5 61	5 81	6 00	8 28	6 59	6 00	5 49	5 17	5 27	5 39	6 19
Cost of labor to the ton of finished bar iron.....	10 43	10 17	10 37	11 06	15 12	14 70	12 85	13 06	11 77	10 68	10 90	11 12	11 78
General contingencies.....	4 64	4 83	4 88	7 05	10 39	10 78	8 88	10 38	10 84	7 91	8 78	8 71	10 03
Cost in the mill, finished.....	46 42	45 51	46 57	49 17	73 68	76 40	61 16	62 78	58 71	50 30	50 56	50 57	52 36
Add interest on capital invested, on a product of 6,000 tons.....	1 56	1 49	1 54	1 50	1 80	1 63	1 59	1 89	1 65	1 60	1 71	1 90	1 75
Total cost to the manufacturer.....	47 98	47 00	48 11	50 67	75 48	78 03	62 75	64 67	60 36	51 90	52 27	52 47	54 11

	1863.	1864.	1865.	1866.	1867.	1868.	1869.	1870.	1871.	1872.	1873	1874. Mar. 1.
Cost of pig iron to the ton of finished bar iron...	\$27 90	\$41 40	\$68 60	\$50 77	\$50 64	\$44 53	\$43 29	\$43 63	\$40 52	\$49 11	\$43 24	\$41 20
Cost of coal to the ton of finished bar iron.....	7 66	8 44	13 03	8 92	9 13	8 64	8 33	8 55	7 55	8 43	8 55	8 46
Cost of labor to the ton of finished bar iron.....	15 14	18 94	27 45	20 61	22 02	19 87	20 65	18 57	17 70	21 55	20 37	19 02
General contingencies.....	7 66	9 15	18 03	11 50	9 44	7 70	7 75	7 03	7 85	5 74	5 83	5 29
Cost in the mill, finished.....	58 36	77 93	127 11	91 80	91 23	80 74	80 02	77 78	73 62	84 83	77 99	73 97
Add interest on capital invested, on a product of 6,000 tons.....	1 77	1 80	2 80	2 01	2 05	1 96	2 09	2 15	2 20	2 22	2 25	2 10
Total cost to the manufacturer .....	60 13	79 73	129 91	93 81	93 28	82 70	82 11	79 93	75 82	87 05	80 24	76 07
Quantity of ore used to make 1 ton of pig iron, average of 20 years.....	Quantity of pig iron used to make 1 ton of finished bar iron, average of 16 years..... 1-05-2-00 tons.											
Quantity of coal used to make 1 ton of pig iron, average of 20 years.....	Quantity of coal used to make 1 ton of finished bar iron, average of 16 years..... 1-16-2-19 “											
Quantity of limestone used to make 1 ton of pig iron, average of 20 years.....	The above rolling mills used gray and white pig iron and Broad Top and Cumberland coal.											

PRICES IN PHILADELPHIA OF No. 1 ANTHRACITE FOUNDRY  
PIG IRON, FROM 1842 TO 1873.—TONS OF 2,240 LBS.

Year .....	January .....	February .....	March .....	April .....	May .....	June .....	July .....	August .....	September .....	October .....	November .....	December .....	Average .....
1842.....					\$27	\$27	\$26	\$24½	\$25½	\$25	\$25	\$25	
1844.....	\$24	\$24	\$24	\$24	24	26½	26½	26½	27¼	28	27½	26¾	\$25½
1845.....	26¼	26½	27¾	33½	34½	33	31	28½	27	26¾	28½	28	27½
1846.....	28	28	28½	28	28½	28	29	26½	27¼	27	28½	28½	27½
1847.....	28½	28½	28½	29	29	28½	28	28½	30½	33¼	35¼	33½	30½
1848.....	31	28½	27¼	26½	26½	26½	25½	25½	25½	25	25	24½	26½
1849.....	25	24½	21¼	24	†23½	23	†22¼	22	†21½	21½	20	21	†21½
1850.....	21	21	20½	20½	20½	20½	20	20½	21	21	21	21½	20½
1851.....	21½	22	22	22	21½	21	21	21	21	21	21	21	21½
1852.....	21½	21½	20½	20½	20½	20½	20½	21½	23¼	26½	27½	28½	22½
1853.....	32½	36½	35½	35½	35½	36	36	36	36½	37½	37½	36½	36½
1854.....	37	36½	37	38	38	38	38	38	37¾	36½	35½	32½	36½
1855.....	31½	29½	27½	26½	26½	26½	26½	26½	28	28½	28½	27½	27½
1856.....	27½	27½	27½	28	28	27½	27	27	27	26½	26	26	27½
1857.....	26½	26½	26½	27½	27½	27½	27½	26½	26½	25½	23½	23½	26½
1858.....	23½	22½	22½	22½	22½	22½	21½	21½	22	21½	21½	22½	22½
1859.....	22½	23½	24½	23½	23½	23½	23	23½	22½	23½	23½	23½	23½
1860.....	23	23	23½	22½	22½	22½	22½	22½	22½	22½	22½	22½	22½
1861.....	22½	21½	21½	21½	21½	21½	19½	18½	18½	†18½	18½	19½	20½
1862.....	20	20½	20½	21½	21½	21½	24	24½	24½	25½	30½	31½	23½
1863.....	32	33½	35½	36	34½	33½	32½	31½	33	35½	41½	43½	35½
1864.....	43½	48½	50½	54½	57½	57½	69½	§73½	72½	63½	61½	59½	§59½
1865.....	58½	53½	50½	45½	39½	35	35½	40½	44½	49½	51	50½	46½
1866.....	50½	49	46½	41½	41½	43½	46½	47½	48½	48½	49½	49½	46½
1867.....	48½	46½	44½	41	42½	43	43½	44	44½	44½	43½	42½	44½
1868.....	38½	36½	37½	38½	37	37	38½	39½	40½	41½	42½	43½	39½
1869.....	42	40½	41½	40	39½	40½	41½	41½	40½	40½	39½	39½	40½
1870.....	36½	34½	34½	33½	33½	32½	32½	33½	33½	32½	31½	31½	33½
1871.....	30½	30½	34½	35½	35½	35	35½	36	36½	36½	37½	37½	35½
1872.....	37	40½	47	49½	49½	53½	51½	52½	53½	53½	51½	47½	48½
1873.....	45½	48	48½	47½	46	45	43½	43½	42½	38	33	32½	42½

\* Average for year to nearest eighth.

† Uncertain.

‡ Lowest average for month, \$18½—October, 1861.

§ Highest average for month, \$73½—August, 1864.

|| Lowest average for year, \$20½—1861.

¶ Highest average for year, \$59½—1864.

From 1842 to July, 1866, averaged monthly from weekly quotations in Philadelphia and New York prices current. From July, 1866, to 1873, averaged from weekly quotations in bulletin of the American iron and steel association.

## PRICES OF AMERICAN IRON RAILROAD BARS IN PHILADELPHIA FOR TWENTY-SIX YEARS, FROM 1847 TO 1873.

TONS OF 2,240 LBS.

Year .....	January .....	February .....	March .....	April .....	May .....	June .....	July .....	August .....	September .....	October .....	November .....	December .....	Average .....	Average price of gold .....
1847.....		\$71 $\frac{1}{2}$	\$70 $\frac{1}{2}$	\$70	\$70	\$70	\$69 $\frac{1}{2}$	\$69 $\frac{1}{2}$	\$67 $\frac{1}{2}$	\$67	\$67 $\frac{1}{2}$	\$67 $\frac{1}{2}$	.....	100
1848.....	\$63	63	63	63	63	63	63	61 $\frac{1}{2}$	61 $\frac{1}{2}$	61	61	61	\$62 $\frac{1}{2}$	100
1849.....	61	57 $\frac{1}{2}$	53 $\frac{1}{4}$	53 $\frac{1}{4}$	54 $\frac{1}{4}$	53 $\frac{1}{2}$	53 $\frac{1}{2}$	53 $\frac{1}{4}$	52	51 $\frac{1}{2}$	51 $\frac{1}{2}$	51 $\frac{1}{2}$	53 $\frac{1}{2}$	160
1850.....	47	47 $\frac{1}{2}$	48	49	49	50	46	46 $\frac{1}{2}$	47 $\frac{1}{2}$	48	48	48	47 $\frac{1}{2}$	100
1851.....	43	45	47 $\frac{1}{2}$	45	45	48	46	45 $\frac{1}{2}$	45	45	46	46 $\frac{1}{4}$	45 $\frac{1}{2}$	100
1852.....	46 $\frac{1}{2}$	46 $\frac{1}{2}$	46 $\frac{1}{2}$	46 $\frac{1}{2}$	46 $\frac{1}{2}$	46 $\frac{1}{2}$	46 $\frac{1}{2}$	46 $\frac{1}{2}$	47 $\frac{1}{4}$	49 $\frac{1}{4}$	51	61	48 $\frac{1}{2}$	100
1853.....	74 $\frac{1}{2}$	77 $\frac{1}{2}$	77 $\frac{1}{2}$	77 $\frac{1}{2}$	77 $\frac{1}{2}$	77 $\frac{1}{2}$	77 $\frac{1}{2}$	77 $\frac{1}{2}$	77 $\frac{1}{2}$	77 $\frac{1}{2}$	77 $\frac{1}{2}$	77 $\frac{1}{2}$	77 $\frac{1}{2}$	100
1854.....	81	81	81	81	81	81	81	81	81	81	77 $\frac{1}{2}$	77 $\frac{1}{2}$	80 $\frac{1}{2}$	100
1855.....	70	65	62 $\frac{1}{2}$	62 $\frac{1}{2}$	60	53 $\frac{1}{2}$	59 $\frac{1}{2}$	59 $\frac{1}{2}$	64 $\frac{1}{2}$	65	65	63	62 $\frac{1}{2}$	100
1856.....	62 $\frac{1}{2}$	62 $\frac{1}{2}$	63 $\frac{1}{2}$	65	65	65	65	65	65	65	65	64	64 $\frac{1}{2}$	100
1857.....	65 $\frac{1}{2}$	65 $\frac{1}{2}$	64 $\frac{1}{2}$	65 $\frac{1}{2}$	67	67	67	67	67	67	58 $\frac{1}{2}$	50	64 $\frac{1}{4}$	100
1858.....	50	50	50	50	50	50	50	50	50	50	50	50	50	100
1859.....	49 $\frac{1}{4}$	49 $\frac{1}{4}$	49 $\frac{1}{4}$	50 $\frac{1}{4}$	50 $\frac{1}{4}$	50 $\frac{1}{4}$	49 $\frac{3}{4}$	48 $\frac{3}{4}$	48 $\frac{1}{4}$	48 $\frac{1}{4}$	48 $\frac{1}{4}$	48 $\frac{1}{4}$	49 $\frac{1}{4}$	100
1860.....	48 $\frac{1}{4}$	48 $\frac{1}{4}$	48 $\frac{1}{4}$	48 $\frac{1}{4}$	48 $\frac{1}{4}$	48 $\frac{1}{4}$	48 $\frac{1}{4}$	46	47	47 $\frac{1}{2}$	47 $\frac{1}{2}$	46 $\frac{1}{2}$	48	100
1861.....	44	44	44	44	44	44	44	43 $\frac{1}{2}$	43	43 $\frac{1}{2}$	43 $\frac{1}{2}$	46	41 $\frac{1}{2}$	113
1862.....	436 $\frac{1}{2}$	436 $\frac{1}{2}$	41 $\frac{1}{2}$	41 $\frac{1}{2}$	41 $\frac{1}{2}$	41 $\frac{1}{2}$	41 $\frac{1}{2}$	41 $\frac{1}{2}$	43	43 $\frac{1}{4}$	46	46	41 $\frac{1}{2}$	113
1863.....	72 $\frac{1}{2}$	69 $\frac{3}{4}$	72 $\frac{1}{4}$	73 $\frac{1}{2}$	73 $\frac{1}{2}$	78 $\frac{1}{4}$	81 $\frac{1}{2}$	73 $\frac{3}{8}$	72 $\frac{1}{2}$	79 $\frac{1}{2}$	87 $\frac{1}{2}$	87 $\frac{1}{2}$	76 $\frac{1}{2}$	145
1864.....	94	101 $\frac{1}{4}$	105	111	120	127 $\frac{1}{2}$	141 $\frac{1}{2}$	152 $\frac{1}{2}$	\$153 $\frac{3}{4}$	140	133 $\frac{1}{4}$	132	126	202
1865.....	125 $\frac{3}{8}$	121 $\frac{1}{4}$	116 $\frac{1}{4}$	108 $\frac{1}{2}$	90 $\frac{1}{4}$	84 $\frac{1}{4}$	82 $\frac{1}{2}$	86 $\frac{1}{4}$	90	92 $\frac{1}{2}$	95	91	98 $\frac{1}{4}$	157
1866.....	90	90	87 $\frac{1}{4}$	84 $\frac{1}{4}$	84	85 $\frac{1}{4}$	86 $\frac{3}{8}$	87	87 $\frac{3}{8}$	87 $\frac{3}{8}$	85	85	86 $\frac{1}{4}$	149
1867.....	85	85	84 $\frac{1}{4}$	82 $\frac{1}{2}$	82 $\frac{1}{2}$	82 $\frac{1}{2}$	82 $\frac{1}{2}$	82 $\frac{1}{2}$	82 $\frac{1}{2}$	82 $\frac{1}{2}$	82 $\frac{1}{2}$	82 $\frac{1}{2}$	83 $\frac{3}{8}$	138
1868.....	81 $\frac{3}{4}$	79	79	79	79	79	79	79	79	78 $\frac{1}{2}$	78 $\frac{1}{2}$	78 $\frac{1}{2}$	78 $\frac{1}{2}$	149
1869.....	76 $\frac{3}{4}$	76	76	76	76	76	76	80	78 $\frac{1}{2}$	78 $\frac{1}{2}$	78 $\frac{1}{2}$	78 $\frac{1}{2}$	77 $\frac{1}{4}$	136
1870.....	74	72 $\frac{1}{2}$	72 $\frac{1}{2}$	72 $\frac{1}{2}$	72 $\frac{1}{2}$	72 $\frac{1}{2}$	72 $\frac{1}{2}$	72 $\frac{1}{2}$	72 $\frac{1}{2}$	72 $\frac{1}{2}$	70 $\frac{1}{2}$	70	72 $\frac{1}{4}$	115
1871.....	68 $\frac{1}{4}$	69	69	69 $\frac{1}{2}$	71	71	71	71	71	71	71	71	70 $\frac{3}{8}$	112
1872.....	71 $\frac{1}{2}$	75 $\frac{3}{8}$	81 $\frac{1}{2}$	83 $\frac{3}{8}$	90 $\frac{1}{2}$	90	89	87 $\frac{3}{4}$	88 $\frac{3}{4}$	88 $\frac{3}{4}$	88 $\frac{3}{4}$	85 $\frac{1}{2}$	85 $\frac{3}{8}$	112
1873.....	83 $\frac{1}{2}$	83	83	82	80	78	76	75	75	70	61	61	75 $\frac{3}{8}$	112

\* For latter part of 1857 prices were probably only nominal.

† Uncertain.

‡ Lowest months, \$36 $\frac{1}{2}$ —November and December, 1861.§ Highest month, \$153 $\frac{3}{4}$ —September, 1864.|| Lowest year, \$41 $\frac{1}{4}$ —1862.

¶ Highest year, \$126—1864.

Prices averaged for years to nearest eighth.

From 1847 to 1866 from Philadelphia prices current, except for years 1850 and 1851, for which estimates were furnished by Mr. S. J. Reeves. From 1866 to 1873 from bulletin of the American iron and steel association, averaged from weekly quotations.

The annual premium on gold is calculated from daily quotations of gold sales in the *Banker's Magazine*.



THE PITTSBURG PIG IRON MARKET FOR 1873 AND 1874, AS PRESENTED IN THE COLUMNS OF THE "AMERICAN MANUFACTURER."

On the following pages we give our readers annual tables showing the prices of all grades of iron in Pittsburg for the past two years by months. A word or two as to the scope of these tables will prevent any misrepresentations. They represent only the sales that have been from week to week reported in the *Manufacturer*. At times, for reasons that are apparent, brokers have not thought best to report certain sales, but these will not probably exceed 10 per cent. of the entire amount. Sales are often made direct from the furnace without passing through the broker's hands. These are not reported except in a very few instances. The column of "average price" is the actual average price, and not the average of prices. For example, if 10 tons were sold at \$30, and 100 at \$40, the average price would be \$39 09, and not as would be given in most instances, \$35. The former figures would be the average price; the latter the average of prices. The figures given in the tables are the average prices. The difference in the volume of business for the two years will be better understood by the following table:

1873.		1874.	
Sales of all grades—January....	41,438	Sales of all grades—January....	18,395
Do.....do.....February....	20,146	Do.....do.....February....	13,361
Do.....do.....March.....	15,925	Do.....do.....March.....	6,887
Do.....do.....April.....	7,970	Do.....do.....April.....	18,466
Do.....do.....May.....	11,658	Do.....do.....May.....	11,946
Do.....do.....June.....	13,056	Do.....do.....June.....	13,736
Do.....do.....July.....	15,071	Do.....do.....July.....	23,422
Do.....do.....August.....	10,800	Do.....do.....August.....	10,887
Do.....do.....September....	17,729	Do.....do.....September....	12,995
Do.....do.....October.....	4,523	Do.....do.....October....	7,665
Do.....do.....November....	43,214	Do.....do.....November....	6,067
Do.....do.....December....	28,820	Do.....do.....December....	2,646
Total.....	191,460	Total.....	146,453

The totals of the two years are not as different as the course of business might at first lead one to suppose, it being mainly anthracite irons, the amount of these irons reported in 1873 being 43,757, and in 1874 only 8,996 tons. Prices have been so low that when the difference in freight was considered iron could not be sent from the east to this market.

In prices there has been a marked difference in the two years. In 1873 the highest price for gray forge, bituminous, which is the standard iron in this market, was \$44 00, the lowest being \$24 00. While the market has been lower in 1874, there is not the same relative difference between the

highest and lowest price as in 1873, the highest being \$32 00, and the lowest \$23 00. The decline from the highest price, which was in January, has been gradual.

We give below the average prices of good gray coke iron by months for 1873 and 1874 :

MONTHS.	1873.	1874.	MONTHS.	1873.	1874.
January.....	\$40 25	\$30 43	July.....	\$35 55	\$26 90
February.....	43 00	30 87	August.....	34 23	26 62
March.....	41 89	28 64	September.....	34 34	26 64
April.....	41 62	27 58	October.....	31 95	26 13
May.....	40 47	26 85	November.....	25 38	25 08
June.....	37 04	26 79	December.....	29 22	24 08

## THE PITTSBURG PIG IRON MARKET FOR 1873 AND 1874—CONTINUED.

GRADE OF IRON.	JANUARY.				FEBRUARY.				MARCH.			
	1873.				1874.				1873.			
	No. of tons....	Highest price..	Lowest price...	Average price,	No. of tons....	Highest price..	Lowest price...	Average price,	No. of tons....	Highest price..	Lowest price...	Average price,
<i>Bituminous and Coke:—</i>												
No. 1, foundry.....	750	\$45 00	\$44 00	\$44 12	850	\$45 00	\$33 21	\$43 00	330	\$36 00	\$33 00	\$34 94
No. 2, foundry.....	590	42 50	42 00	42 04	1,140	34 00	30 00	30 16	60	33 00	32 00	\$24 94
Gray forge, open.....	24,450	43 00	38 50	40 25	8,110	32 00	29 00	30 35	860	44 00	42 50	\$2 69
Gray forge, medium.....	5,170	40 00	38 00	39 34	3,250	32 00	28 00	30 43	3,050	44 00	40 00	41 89
Gray forge, close.....	1,750	40 00	38 00	38 77	1,330	29 50	25 00	27 13	3,270	43 00	37 25	41 46
Mottled.....	.....	.....	.....	.....	100	30 00	27 00	28 20	2,150	43 50	38 00	40 27
White.....	690	38 00	35 00	35 84	350	39 00	37 00	37 85	2,200	40 00	38 00	39 00
White and mottled.....	370	41 00	40 00	40 69	1,300	40 00	38 00	38 77	700	42 00	37 00	39 14
Silvery.....	.....	.....	.....	.....	200	36 00	36 00	36 00	.....	.....	.....	.....
Total.....	33,770	.....	.....	14,785	12,725	.....	.....	11,060	12,425	.....	.....	.....
<i>Anthracite:—</i>												
No. 1, foundry.....	590	48 00	44 00	46 21	540	35 50	32 00	34 67	550	48 00	45 00	46 65
No. 2, foundry.....	1,310	46 50	41 00	43 48	130	35 00	33 00	33 46	550	45 00	42 00	40 66
Gray forge, open.....	1,470	44 00	38 00	40 02	1,380	30 00	28 00	29 77	700	42 00	40 00	40 81
Gray forge, medium.....	1,200	39 00	42 00	39 90	1,350	29 00	26 00	29 55	170	41 00	41 00	41 00
Gray forge, close.....	1,500	40 00	40 00	40 00	450	29 00	26 00	29 00	120	43 00	40 00	41 25
Mottled.....	1,650	38 00	36 50	37 50	400	28 00	25 00	28 00	500	39 00	38 00	39 00
White.....	1,200	38 00	35 00	36 14	100	26 00	25 00	26 00	100	39 00	38 00	39 00
White and mottled.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Silvery.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total.....	7,630	.....	.....	3,150	5,980	.....	.....	1,390	2,690	.....	.....	.....
<i>Charcoal:—</i>												
No. 1, foundry.....	38	58 00	58 00	58 00	230	48 00	40 00	43 20	471	58 00	54 00	56 66
No. 2, foundry.....	.....	.....	.....	.....	195	38 00	34 00	36 55	190	58 00	55 00	55 57
Gray forge.....	.....	.....	.....	.....	40	47 00	47 00	47 00	80	56 50	55 00	56 31
Cold blast.....	.....	.....	.....	.....	.....	.....	.....	.....	70	68 00	62 00	67 14
Total.....	38	.....	.....	465	1,531	.....	.....	911	811	.....	.....	.....
Total all kinds.....	41,498	.....	.....	18,395	20,146	.....	.....	13,361	15,925	.....	.....	.....

† Including all iron reported as Gray Forge without giving grade.

\* Including Bessemer.



## THE PITTSBURG PIG IRON MARKET FOR 1873 AND 1874—CONTINUED

## MINERAL STATISTICS.

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GRADE OF IRON.	APRIL.				MAY.				JUNE.			
	1873.				1874.				1873.			
	No. of tons....	Highest price..	Lowest price..	Average price,	No. of tons....	Highest price..	Lowest price..	Average price,	No. of tons....	Highest price..	Lowest price..	Average price,
<i>Bituminous and Coke:—</i>												
No. 1, foundry*.....	220	\$45 50	\$45 50	\$45 50	220	\$45 00	\$44 00	\$44 49	160	\$45 00	\$43 00	\$43 50
No. 2, foundry.....	70	45 00	44 00	44 50	310	42 00	40 00	40 42	180	40 00	37 00	38 06
Gray forge, open.....	3,300	43 50	40 00	41 62	1,910	43 00	38 00	40 47	3,430	38 00	35 00	37 04
Gray forge, medium.....	950	42 00	39 00	41 05	1,965	41 50	37 50	38 49	2,660	38 00	35 00	36 32
Gray forge, close.....	400	41 00	40 00	40 75	700	40 00	38 00	38 57	1,150	36 00	35 00	36 00
Mottled.....	100	40 00	40 00	40 00	190	38 00	38 00	38 00	600	26 00	25 00	26 00
White.....	100	40 00	40 00	40 00	30	38 50	38 50	38 50	150	32 00	32 00	32 00
White and mottled.....	25	38 00	38 00	38 00	80	40 00	38 00	38 86	800	26 00	25 00	25 75
Silvery.....	5,065				5,400				6,730			
Total.....	450	47 00	46 00	46 20	490	51 50	42 00	44 08	490	50 00	40 00	42 85
<i>Anthracite:—</i>												
No. 1, foundry.....	180	44 00	42 00	43 00	665	44 00	40 00	42 04	230	46 50	38 00	39 91
Gray forge, open.....	900	42 00	40 50	41 60	700	42 00	35 00	37 23	310	37 50	37 50	37 50
Gray forge, medium.....	300	43 00	41 00	41 65	500	38 00	37 00	37 30	1,520	38 00	34 00	35 89
Gray forge, close.....	100	38 00	38 00	38 00	165	38 00	32 50	33 70	760	38 00	35 00	36 16
Mottled.....	20	35 50	35 25	35 37	522	36 00	32 00	35 27	550	36 00	32 00	35 00
White.....	450	39 00	39 00	39 00	740	36 00	32 50	36 81	1,250	35 00	31 50	32 50
White and mottled.....	10	40 00	40 00	40 00	300	37 00	36 50	36 75	10	35 00	35 00	35 00
Silvery.....	2,410				4,052				5,120			
Total.....	400	58 50	56 00	57 25	225	59 00	54 00	57 22	705	58 00	54 00	55 17
<i>Charcoal:—</i>												
No. 1, foundry.....	75	P. T.	P. T.	P. T.	700	55 00	55 00	55 00	171	52 00	50 00	50 89
Gray forge.....	120	68 00	60 00	62 00	1,200	55 00	40 00	52 50	525	47 50	47 50	47 50
Old blast.....	495				180	63 00	62 00	62 83	10	60 00	60 00	60 00
Total.....	7,970				2,206				1,206			
Total all kinds.....	11,946				11,658				13,056			

\* Including Bessemer.

† Including all iron reported as Gray Forge without giving grade.

THE PITTSBURG PIG IRON MARKET FOR 1873 AND 1874—CONTINUED.

GRADE OF IRON.	JULY.				AUGUST.				SEPTEMBER.			
	1873.				1874.				1873.			
	No. of tons.....	Highest price..	Lowest price...	Average price,	No. of tons ....	Highest price..	Lowest price...	Average price,	No. of tons ....	Highest price..	Lowest price...	Average price.
<i>Birmingham and Coke.</i>												
No. 1, foundry.....	150	\$44 00	\$33 00	\$39 33	659	\$31 00	\$27 00	\$29 47	3,770	\$41 50	\$36 00	\$38 28
No. 2, foundry.....	369	41 00	36 00	36 77	40	28 00	27 00	27 50	900	40 00	32 00	32 63
Gray forge, open.....	4,470	36 00	34 00	35 55	490	35 00	33 00	34 23	450	23 00	27 00	27 35
Gray forge, medium.....	2,050	35 50	34 00	35 19	17,640	28 00	25 00	26 90	7,680	27 00	25 00	26 62
Gray forge, close.....	600	34 00	33 00	33 50	500	25 00	26 00	25 00	2,200	25 50	24 00	24 90
Mottled.....	650	33 00	31 00	31 69	100	25 00	25 00	25 00	500	25 00	24 50	24 90
White.....	450	34 00	32 00	32 68	1,650	26 00	25 00	25 51	300	31 00	30 00	30 50
White and mottled.....	.....	.....	.....	.....	40	26 50	26 50	26 50	50	34 00	34 00	34 00
Silvery.....	.....	.....	.....	.....	.....	.....	.....	.....	200	33 00	31 00	31 62
Total.....	8,730	.....	.....	26,620	.....	.....	.....	8,299	12,670	.....	.....	12,255
<i>Anthracite.</i>												
No. 1, foundry.....	310	43 00	38 00	41 20	71	36 00	28 00	30 52	530	40 00	37 00	37 51
No. 2, foundry.....	580	43 00	35 75	37 27	330	37 00	26 50	29 71	780	36 50	32 00	33 09
Gray forge, open.....	1,530	36 00	34 00	34 75	.....	.....	.....	35 18	300	33 00	31 50	32 75
Gray forge, medium.....	430	34 50	31 00	32 81	100	26 00	26 00	26 00	600	37 50	31 00	34 50
Gray forge, close.....	850	31 00	31 00	31 00	.....	.....	.....	33 56	1,700	34 00	30 00	31 50
Mottled.....	1,510	33 00	30 00	30 03	.....	.....	.....	.....	200	32 00	32 00	32 00
White.....	400	34 00	31 00	34 00	100	24 00	24 00	24 00	300	31 00	31 00	31 00
White and mottled.....	.....	.....	.....	.....	20	25 00	25 00	25 00	.....	.....	.....	.....
Silvery.....	3,310	32 00	32 00	32 00	.....	.....	.....	32 33	.....	.....	.....	.....
Total.....	5,920	.....	.....	1,260	.....	.....	.....	2,220	.....	.....	.....	.....
<i>Charcoal.</i>												
No. 1, foundry.....	206	55 00	52 00	53 54	146	40 00	30 00	35 10	210	50 00	52 00	53 38
No. 2, foundry.....	111	51 00	49 00	49 44	421	45 00	30 00	45 02	90	55 00	47 00	49 17
Gray forge.....	31	P.T.	P.T.	P.T.	850	27 00	26 00	25 86	.....	.....	.....	.....
Cold blast.....	80	58 00	58 00	58 00	125	46 00	47 00	47 96	20	53 00	53 00	53 00
Total.....	427	.....	.....	1,542	.....	.....	.....	.....	320	.....	.....	.....
Total all kinds.....	15,071	.....	.....	23,422	.....	.....	.....	10,800	10,887	.....	.....	17,792

Including all iron reported as Gray Forge, without giving grade.

Including Bessemer.

# MINERAL STATISTICS.

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## THE PITTSBURG PIG IRON MARKET FOR 1873 AND 1874—CONTINUED.

GRADE OF IRON.	OCTOBER.				NOVEMBER.				DECEMBER.			
	1873.				1874.				1873.			
	No. of tons....	Highest price..	Lowest price..	Average price,	No. of tons....	Highest price..	Lowest price..	Average price,	No. of tons....	Highest price..	Lowest price..	Average price,
<i>Bituminous and Coke:—</i>												
No. 1, foundry*.....	725	\$38 00	\$32 00	\$36 77	620	\$30 00	\$27 00	\$28 28	430	\$36 00	\$29 00	\$30 55
No. 2, foundry.....	200	38 00	34 00	35 10	470	29 00	26 50	27 11	1,825	32 00	29 00	30 51
Gray forge, open.....	850	34 00	28 00	31 05	270	27 00	25 00	25 88	12,160	30 00	25 00	27 22
Gray forge, medium†.....	540	34 00	30 00	32 05	3,820	28 00	25 00	26 13	8,680	29 00	24 00	25 53
Gray forge, close.....	300	33 00	30 50	31 33	340	25 50	25 00	25 33	2,510	28 00	23 00	25 89
Mottled.....	100	29 00	29 00	29 00	940	25 00	25 00	24 48	2,540	27 00	26 50	26 70
White.....	270	32 50	30 00	31 70	710	24 00	23 00	25 83	520	27 00	23 00	23 50
White and mottled.....	100	26 00	26 00	26 00	100	26 00	26 00	26 00	255	31 00	27 00	27 27
Silvery.....	2,985	.....	.....	.....	7,240	.....	.....	.....	20,860	.....	.....	.....
Total.....	135	40 00	30 00	30 67	.....	.....	.....	.....	130	36 00	32 00	34 58
<i>Anthracite:—</i>												
No. 1, foundry.....	90	36 00	32 50	34 44	50	26 00	26 00	26 00	200	31 00	29 00	30 00
Gray forge, open.....	150	32 00	30 00	31 00	.....	.....	.....	.....	620	30 00	26 00	26 09
Gray forge, medium.....	480	32 00	29 50	31 28	150	26 50	24 00	25 66	430	30 00	26 00	28 00
Gray forge, close.....	100	34 00	34 00	34 00	.....	.....	.....	.....	.....	.....	.....	.....
Mottled.....	180	29 50	29 50	29 50	.....	.....	.....	.....	170	26 00	26 00	26 00
White.....	.....	.....	.....	.....	.....	.....	.....	.....	100	26 00	26 00	22 00
White and mottled.....	.....	.....	.....	.....	.....	.....	.....	.....	90	25 00	25 00	25 00
Silvery.....	1,115	.....	.....	.....	200	.....	.....	.....	1,740	.....	.....	.....
Total.....	215	50 00	48 00	49 00	160	36 00	34 00	34 63	50	50 00	40 00	44 00
<i>Charcoal:—</i>												
No. 1, foundry.....	165	44 00	44 00	44 00	65	34 00	30 00	30 61	100	45 00	37 00	42 00
No. 2, foundry.....	43	P. T.	P. T.	P. T.	.....	.....	.....	.....	20	P. T.	P. T.	P. T.
Gray forge.....	.....	.....	.....	.....	.....	.....	.....	.....	50	50 00	48 00	48 80
Cold blast.....	423	.....	.....	.....	225	.....	.....	.....	.....	.....	.....	.....
Total.....	4,523	.....	.....	.....	7,665	.....	.....	.....	28,820	.....	.....	.....
Total of all kinds.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

\* Including Bessemer.

† Including all iron reported as Gray Forge without giving grade.



## THE STATISTICS OF MINING IN THE STATE OF PENNSYLVANIA, AT THE CENSUS OF 1870.

MINERALS.	ESTABLISHMENTS..	STEAM ENGINES.		WATER WHEELS.		HANDS EMPLOYED.				CAPITAL.	WAGES.		MATERIALS.	PRODUCTS.	
		Horse power.....	Number ...	Horse power.....	Number ...	All .....	Men above ground....	Men under ground....	Boys above ground....	Boys under ground....	Dollars ....	Dollars ....	Dollars ....	Tons .....	Dollars ....
Coal, anthracite.....	229	48,809	829	331	7	53,021	13,844	30,089	5,500	3,573	22,082,813	3,596,440	15,650,275	38,436,745	
Coal, bituminous.....	359	1,851	69	.....	.....	16,851	3,421	13,036	29	305	8,995,495	604,691	7,798,518	13,921,069	
Copper.....	2	.....	.....	.....	.....	7	7	.....	.....	.....	2,640	2,018	(*)	7,800	
Iron ore.....	186	3,789	163	38	3	4,886	2,551	2,139	196	.....	2,051,345	388,964	1,065,486	3,944,146	
Marble.....	6	142	5	.....	.....	86	86	.....	.....	.....	39,320	6,210	(*)	101,000	
Nickel.....	1	130	2	.....	.....	48	26	.....	22	.....	6,400	1,800	400	24,000	
Petroleum.....	2,118	20,943	2,095	.....	.....	4,070	4,070	.....	.....	.....	3,797,818	1,293,177	(+)171,207,622	18,015,967	
Slate.....	28	237	9	42	6	732	731	.....	1	.....	325,447	71,310	(*)	618,329	
Stone.....	126	93	6	8	1	1,114	1,112	.....	2	.....	446,277	79,484	(*)	873,879	
Zinc.....	1	676	12	.....	.....	400	180	180	40	.....	167,721	25,823	(*)	235,555	
Total.....	3,086	76,670	3,190	419	17	81,215	26,088	45,474	5,790	3,883	38,815,276	6,039,917	.....	76,208,390	

( ) Quantities not specified.

(+) Gallons.

## OIL TRADE.

## PITTSBURG OIL TRADE.

OFFICE OF THE "PITTSBURG COMMERCIAL." }  
THURSDAY, *September, 17, 1874.* }

## NEW FREIGHT ARRANGMENT.

A new system of freight rates, by which all refineries, whether located here or in Cleveland or Titusville, are to be placed on an equal footing, by means of a drawback, has been agreed upon by the Pennsylvania Central, Atlantic and Great Western, the Northern Central and Erie railways. The new arrangement is stated in a circular which has been issued, and from which we extract the following:

Commencing October 1, 1874, the following rates on refined and crude oil shall govern the market:

The rates on refined oil from oil refineries at Cleveland, or Titusville or elsewhere in and adjacent to the oil region shall be as follows:

To Boston, \$2 10 per barrel.

To Philadelphia, \$1 85 per barrel.

To Baltimore, \$1 85 per barrel.

To New York, \$2 00 per barrel.

From which shall be refunded the amount paid for the transportation of the crude oil by rail from the mouth of the pipes to the said refineries, upon the basis of fourteen barrels of crude oil to the refiners, for every ten barrels of refined oil forwarded by rail from them (the refiners) to the eastern points named.

Settlements of this drawback to be made on the refined oil forwarded during each month.

You will observe that under this system the rate is even and fair to all parties, preventing one locality taking advantage of its neighbor, by reason of some alleged or real facility it may possess.

Oil refiners and shippers have asked the road from time to time, to make all rates even and they would be satisfied. This scheme does it, and we trust it will work satisfactorily to all.

It will be seen that by this arrangement the railroads will carry crude oil free to Cleveland, Pittsburg, Titusville and other refineries free of charge. That is the refiners pay for freight on crude oil, but when the petroleum has been refined and shipped to the seaboard, the amount paid on the crude is returned. To give refineries at the seaboard an equal favor, one thou-

sand barrels of crude oil will be carried to New York for the same price as the refined oil which the thousand barrels of crude would make, can be transported.

The effect of this arrangement will be to partially benefit the business of our oil refiners, by improving freight rates, and removing the inequalities which have heretofore existed in favor of points less advantageously located than Pittsburg. It does not, however, place Pittsburg in the position which it ought to occupy by virtue of its material advantages for the oil refining trade. That position can only be secured by the establishment of competition in the transportation of oil. The completion of the Columbia Conduit company's pipe line, or of any similar enterprise, which will enable the Baltimore and Ohio road to enter into the business, will insure the establishment of the lowest living rates at which oil can be transported. That consummation is one which the oil men of this city need. The welfare of that business does not require any gifts, nor is it for its interest to be subject to the dictum of any one transportation company, but when the establishment of competing lines shall insure that crude oil shall be brought to their refineries, and the refined product taken away, at the lowest practicable rates, the oil trade of Pittsburg need be second to none in the country.

The Oil City *Derrick* suggests a constitutional difficulty in this connection as follows: "But the railroads appear to have forgotten that a new Constitution was adopted in this State last year, and that one of the sections of said Constitution positively prohibits any favor between transportation companies and individuals or corporations, by abatements or drawbacks. The people made this a law, and it remains to be seen if they will allow the railroad companies to break it, by putting in force this arrangement, which has for its basis certain drawbacks or rebates in favor of shippers and refiners."



## PIPE LINE REPORTS.

We find in the Oil City and Titusville papers, the reports of the various pipe companies up to August 31. It is said by the Oil City *Derrick* that there is an evident intention on the part of some of the companies to evade the law in making their statements. We give below the report of stocks on hand August 31, so far as received :

	Barrels.
United pipe company.....	911,629 81
Union pipe company.....	394,568 48
Pennsylvania transportation company.....	163,199 22
Titusville pipe company.....	30,262 50
New York pipe company.....	18,744 19
Grant pipe company.....	69,309 77
Octave oil company.....	17,684 21
Church Run oil company.....	7,410 89
Sandy pipe company.....	39,328 91
Milton pipe company.....	49,695 20
Sage Run pipe company.....	5,445 23
Antwerp and Oil City pipe company.....	150,000 00
Karns pipe company.....	157,507 42
Tidioute pipe company.....	23,292 88
New York and Allegheny oil company.....	13,369 78
Tidioute and Warren oil company.....	17,100 00
Fisher's pipe company.....	14,000 00
Sage Run pipe company.....	5,445 23
American transfer company.....	82,500 00
Cherrytree pipe company.....	9,500 00
Total stock on hand.....	<u>2,179,993 72</u>

The above shows an increase in stock during the past month of 453,354 barrels, the stock at the last report, having been 1,726,639 barrels.

## OFFICIAL OIL RETURNS.

TABLE of returns from parties engaged in the storage and transportation of petroleum oil, for the quarter ending September 30, 1874, made pursuant to act of 15th May, A. D. 1874.

COMPANIES.	Postoffice.	Barrels, (42 gallons.)
American Transfer company.....	St. Petersburg.....	135,939.61
Antwerp Pipe company.....	St. Petersburg.....	116,848.18
Church Run Pipe company.....	Titusville.....	9,562.68
Charles Run Pipe company.....	Oil City.....	8,352.00
Delaware River Storage company.....	112 Walnut st., Phila.,	*126,986.00
Franklin Pipe line.....	Franklin.....	9,169.39
Grant Pipe company.....	Parker.....	154,087.24
Karns Pipe line.....	Parker.....	253,572.41
Munhall, John & Co.....	Oil City.....	52,471.00
New York and Allegheny Oil company.....	Tidioute.....	19,911.79
New York Pipe company.....	Titusville.....	41,093.01
Octave Oil company.....	Titusville.....	17,629.92
Oil City Pipe company.....	St. Petersburg.....	78,885.86
Pennsylvania Transportation company.....	Titusville.....	145,979.03
Prentice, F. & Co.....	Coal City.....	23,340.00
Rochester and Oleopolis.....	Oil City.....	33,856.33
Relief Pipe line company.....	Millerstown.....	198,189.46
Shaffer Run Pipe company.....	Oil City.....	37,712.00
Sage Run Pipe line.....	Oil City.....	16,992.33
Smith's Ferry and Island Run Oil Trans. co....	Beaver county.....	10,433.13
Tidioute Oil Pipe company.....	Tidioute.....	30,216.45
Titusville Pipe company.....	Titusville.....	37,899.92
Taft & Payne Pipe company.....	Franklin.....	18,665.24
Union Pipe company.....	Parker.....	783,697.25
United Pipe lines.....	.....	819,331.91
Vandergrift, Formon & Co.'s pipe line.....	Oil City.....	69,081.84
Total.....		3,202,057.61

\* Refined.

## BUSINESS OF PITTSBURG.

## MANUFACTURING AND BUSINESS STATISTICS FOR 1874.

*Reported for the Bureau of Statistics, by Wm. Evans and James T. Hudson.*

The year 1874 has been a peculiarly unfavorably one to the leading interests which form Pittsburg's principal prosperity. The industries in iron, glass and oil, have all been subjected during the year to the severe tests of a heavy decline in values and a slack demand. These circumstances necessarily cause a falling off for many of the leading interests, but the decrease thus shown is not so great as might have been expected, and taking everything into account, present a very favorable showing for the stability and endurance of Pittsburg's chief industries.

The mercantile interests of Pittsburg have, of course, felt the depression of the manufacturing part of the community. But, nevertheless, the year has been an average one for the amount of business. A careful examination reveals the fact that in the amount of articles handled during the year, the business of the past twelve months, exceeds the average of former years by ten to fifteen per cent., while calculated in values it falls short of the average by from fifteen to twenty per cent. This is due partly to the greater economy rendered necessary by the exigencies of the times, and partly to the decline in values which has been so general during the year.

The task of collecting statistics has been a difficult one, and some information which would have been of importance we are forced to omit. It had been intended to include in the present report some statistics concerning the general tonnage movement of freight to and from Pittsburg, but this was rendered impossible by the apprehension of some railway officials, that by this means information might be made public which would be disadvantageous to their roads. Other gentlemen, connected with the railway interests of Pittsburg, furnished very liberally all the information asked for, and the statistics thus obtained, though incomplete, confirmed the opinion expressed elsewhere that the business of the year, calculated by tonnage, was increased considerably over any former year. The tonnage of eastern shipments for the year, as an example, shows an increase of over fifty per cent., composed principally of the product of the iron, glass and oil manufacturies, while the market values of the same shipments would be a considerable decrease for the same period. We give below statistics of the iron, oil, coal and coke and produce business transacted in Pittsburg during the year ending December 12, 1874:



## COAL AND COKE.

Notwithstanding the adverse circumstances of the coal and coke trade during the year, the statement of the amount handled presents a very good showing. Navigation was entirely suspended from June to November, and almost entirely stopped for two months previous. In addition to this, the disastrous waterspout, which destroyed so much life and property on the 26th of July, created considerable damage in the Saw Mill Run mining section, and to a certain extent caused a stoppage of operations there. Notwithstanding these drawbacks, we present below a statement of receipts showing a considerable increase in the total, aggregating 3,736,273 tons of coal, and 1,110,979 tons of coke, equal to 112,088,190 bushels of coal, and 66,658,740 bushels of coke. The receipts, last year, were 115,065,146 bushels of coal, and 34,230,500 of coke, making the aggregate receipts, for the present season, 178,646,930 bushels, against 149,295,646—an increase of 29,151,284 bushels. The shipments by river were 48,241,000 bushels, against 63,605,000 bushels the preceding year.

SHIPMENT OF COAL THROUGH THE MONONGAHELA NAVIGATION COMPANY'S LOCKS  
FROM ITS OPENING.

Bushels.		Tolls.	Bushels.		Tolls.
1844.....	737,150	.....	1860.....	37,947,732	\$52,082 17
1845.....	4,605,185	\$3,383 79	1861.....	20,865,722	30,945 92
1846.....	7,778,911	10,221 28	1862.....	18,583,956	26,709 29
1847.....	9,645,127	13,241 94	1863.....	26,444,252	40,532 08
1848.....	9,819,361	12,438 43	1864.....	35,070,917	61,384 29
1849.....	9,708,507	13,533 30	1865.....	39,522,792	69,608 48
1850.....	12,297,967	17,023 57	1866.....	42,615,300	77,811 26
1851.....	12,521,228	17,850 24	1867.....	30,072,700	54,855 63
1852.....	14,630,841	20,014 18	1868.....	45,301,000	91,376 38
1853.....	15,716,367	21,291 86	1869.....	52,512,600	104,936 61
1854.....	17,331,946	25,097 51	1870.....	57,596,400	118,705 68
1855.....	22,234,009	31,050 58	1871.....	48,621,300	100,338 64
1856.....	8,584,095	10,566 42	1872.....	54,208,800	115,609 20
1857.....	28,973,596	37,111 41	1873.....	56,173,238	116,728 75
1858.....	25,696,669	34,553 49	1874.....	58,934,800	.....
1859.....	28,286,671	39,065 65			

## COKE RECEIPTS PER SLACK WATER FOR THE PAST TWO YEARS.

	Pool No. 2, 1872 & 1873, bushels.	Pool No. 2, 1873 & 1874, bushels.
December, 1872.....	147,000	116,000
January, 1873.....	48,000	37,000
February.....	263,500	204,000
March.....	329,000	447,000
April.....	744,500	388,000
May.....	394,500	226,500
June.....	240,500	224,000
July.....	316,500	141,000
August.....	124,000	52,000
September.....	15,000	52,000
October.....	572,000	92,500
November.....	116,000	69,000
Total bushels.....	3,310,500	2,049,000
Total tons.....	55,175	34,150

## COAL RECEIPTS ON THE MONONGAHELA FOR THE YEAR ENDING DECEMBER 1, 1874.

	Pool No. 1, bushels.	Pool No. 2, bushels.	Pool No. 3, bushels.	Pool No. 4, bushels.
December, 1873.....	694,000	1,023,000	801,100	741,300
January, 1874.....	1,601,000	4,746,000	1,396,000	1,605,700
February.....	1,423,500	4,549,500	1,682,700	1,596,500
March.....	1,400,000	5,150,000	1,860,000	1,485,600
April.....	1,517,500	4,968,400	1,864,800	1,635,900
May.....	696,000	3,099,800	1,028,000	802,900
June.....	83,000	934,000	335,500	342,600
July.....	39,000	715,500	239,100	561,300
August.....	47,000	366,000	481,100	399,700
September.....	21,500	209,500	125,500	753,200
October.....	123,500	479,500	822,200	
November.....	753,500	2,615,500	894,400	1,223,500
Total bushels.....	8,399,500	28,856,700	11,530,400	10,148,200
Total tons.....	279,983	961,890	384,347	338,273

## MONTHLY RIVER EXPORTS OF COAL SHIPPED BY THE OHIO RIVER, AND WHERE TO.

*December, 1873.*

	Bushels.
To Cincinnati.....	954,000
To Louisville.....	1,033,000
To Parkersburg.....	20,000
Total.....	2,007,000

*January, 1874.*

	Bushels.
To Cincinnati.....	3,830,000
To Madison.....	180,000
To Louisville.....	4,313,000
To Nashville.....	170,000
To Bayou Sara.....	95,000
To New Orleans.....	160,000
Total .....	<u>8,748,000</u>

*February, 1874.*

To Cincinnati.....	3,645,000
To Louisville.....	4,582,000
To St. Louis.....	531,000
Total .....	<u>8,578,000</u>

*March, 1874.*

To Cincinnati.....	2,547,000
To Louisville.....	5,350,000
To St. Louis.....	676,000
To Cairo.....	170,000
To Parkersburg.....	12,000
Total.....	<u>8,555,000</u>

*April, 1874.*

To Cincinnati.....	3,092,000
To Louisville.....	5,256,000
To St. Louis.....	75,000
To New Orleans.....	690,000
To Parkersburg.....	30,000
Total .....	<u>9,143,000</u>

*May, 1874.*

To Cincinnati.....	1,223,000
To Louisville.....	1,017,000
To St. Louis.....	12,000
Total .....	<u>2,252,000</u>



# COAL AND COKE.

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*July, 1874.*

	Bushels.
To Ironton.....	80,000
To Cincinnati.....	740,000
To Louisville.....	150,000
To St. Louis.....	140,000
Total.....	1,110,000

*November, 1873.*

To Cincinnati.....	4,973,000
To Louisville.....	2,415,000
To Nashville.....	105,000
To New Orleans.....	355,000
Total.....	7,848,000
Total for year.....	48,241,000
Total tons.....	1,608,033

## COAL RECEIPTS BY RAIL.

PENNSYLVANIA RAILROAD—RECEIPTS OF COAL AND COKE FOR PAST YEAR.

	Coal, No. cars.	Coal, tons.	Coke, No. cars.	Coke, tons.
December, 1873.....	2,595	31,650	2,507	30,084
January, 1874.....	2,850	34,205	3,138	37,656
February.....	2,786	33,432	2,549	30,588
March.....	2,836	34,032	4,105	49,260
April.....	3,181	38,172	3,641	43,692
May.....	3,548	42,576	3,312	39,774
June.....	3,973	47,676	3,390	40,680
July.....	3,616	43,398	3,214	38,568
August.....	4,588	55,026	3,805	45,660
September.....	5,214	62,568	3,938	47,256
October.....	4,960	59,520	4,322	51,864
November.....	3,202	38,424	3,593	43,119
Total.....	43,346	520,679	41,514	498,201

## BUSINESS OF PITTSBURG.

## PITTSBURG AND CASTLE SHANNON RAILROAD, FOR PAST TWO YEARS.

	1872-73. Bushels.	1873-74. Bushels.		1872-73, Bushels.	1873-74. Bushels.
December, 1872....	282,258	379,460	August, 1873.....	230,733	180,768
January, 1873.....	268,012	334,560	September.....	320,582	167,686
February.....	279,013	322,108	October.....	371,501	370,748
March.....	322,440	357,369	November.....	259,968	321,492
April.....	279,418	396,650	Total bushels..	3,378,000	3,825,714
May.....	238,482	396,894			
June.....	184,497	329,016	Total tons.....	112,600	127,523
July.....	140,203	218,963			

## RECAPITULATION.

## COAL AND COKE RECEIPTS FOR 1874.

	Coal, tons.	Coke, tons.
Pennsylvania railroad.....	520,679	498,201
Pittsburg and Castle Shannon.....	127,000	.....
Pittsburg and Connellsville.....	401,876	578,628
Pittsburg, Cincinnati and St. Louis.....	206,224	.....
Allegheny Valley railroad.....	231,572	.....
Saw Mill Run.....	95,109	.....
Western Pennsylvania.....	189,320	.....
Monongahela River.....	1,964,493	34,150
Total.....	3,736,273	1,110,979
Equal in bushels to.....	112,088,190	66,658,740

## PETROLEUM.

The relative position of Pittsburg to the petroleum producing sections is such as to make her the natural receiving, refining and distributing centre of the oil trade. The fact that heretofore the entire transportation of oil for Pittsburg has been controlled by a single railroad corporation, has resulted in giving other cities less favorably located decided advantages in the matter of transportation rates. The attention of capitalists has been drawn during the past year to this state of facts, and several steps have been taken to improve the position of Pittsburg in this respect. The opening of the Pittsburg and Connellsville railroad to oil shipments has given the refineries of our city a decided advantage in the transportation of their refined product to the seaboard, and during the few weeks that that route has been opened, a large amount of oil has gone forward. Other enterprises have been formed looking to the cheaper transportation of crude oil from the wells to this city, which, when consummated, will give Pittsburg such decided advantages as a refining centre as to place her far in advance of those competitors which have heretofore been most successful.

The unfavorable condition of the oil market during the past year will be seen, on reference to the table of prices current appended. During the early part of the year when prices were remunerative, the business transacted was largely in excess of any previous year. But when in June the downward course of the market resulted in establishing a lower range of prices than was ever before known, it resulted in a serious checking of the business, and caused a decrease in the receipts of crude oil, as compared with the previous year of over 400,000 barrels, as will be seen by reference to the figures given below. The eastward movement of crude oil, on the contrary, although seriously retarded by the disadvantageous circumstances alluded to, shows an increase of 65,328 barrels over that of 1873, which in its turn was more than 125,000 barrels greater than any previous year.

CRUDE OIL.

CRUDE OIL RECEIPTS AT PITTSBURG, BY RIVER AND RAIL, FROM 1859 TO 1874, INCLUSIVE.

	Barrels.		Barrels.
1859.....	7,063	1867.....	727,494
1860.....	17,161	1868.....	1,081,227
1861.....	94,102	1869.....	1,028,902
1862.....	171,774	1870.....	1,050,810
1863.....	175,181	1871.....	1,146,493
1864.....	208,744	1872.....	1,186,501
1865.....	630,246	1873.....	2,035,182
1866.....	1,263,326	1874.....	1,628,070

EXPORTS OF REFINED OIL EAST.

The following are the exports of refined oil east, for the past ten years :

	Barrels.		Barrels.
1865.....	298,111	1870.....	811,158
1866.....	424,848	1871.....	733,943
1867.....	498,221	1872.....	743,510
1868.....	724,991	1873.....	869,946
1869.....	596,475	1874.....	935,274



## WEEKLY OIL PRICE CURRENT FOR CRUDE AND REFINED.

		Crude at Park- er's.—Barrels.		Crude at wells. Barrels.		Refined oil at works.—Gallons.	
January	5, 1874.....	\$1 10	@ \$1 12	\$ 70	@ \$ 80	\$ 11	@ \$ 11 <sup>1</sup> / <sub>4</sub>
Do	12, 1874.....	1 15	@ 1 30	75	@ 85	11 <sup>1</sup> / <sub>4</sub>	@ 11 <sup>1</sup> / <sub>4</sub>
Do	19, 1874.....	1 10	@ 1 25			11 <sup>1</sup> / <sub>4</sub>	@
Do	26, 1874.....	1 40	@ 1 50			12	@
February	2, 1874.....	1 50	@ 1 60	1 20	@ 1 25	12	@ 12 <sup>1</sup> / <sub>4</sub>
Do	9, 1874.....	1 80	@ 2 20			14	@ 14 <sup>1</sup> / <sub>4</sub>
Do	16, 1874.....	1 80	@ 2 00			13 <sup>1</sup> / <sub>4</sub>	@ 13 <sup>1</sup> / <sub>4</sub>
Do	23, 1874.....	1 90	@ 1 95	1 60	@ 1 65	13	@ 13
March	2, 1874.....	1 80	@ 1 90	1 55	@ 1 60	13 <sup>1</sup> / <sub>4</sub>	@ 13 <sup>1</sup> / <sub>4</sub>
Do	9, 1874.....	1 62	@ 1 70			12 <sup>1</sup> / <sub>4</sub>	@ 12 <sup>1</sup> / <sub>4</sub>
Do	16, 1874.....	1 75	@ 1 80	1 40	@ 1 44	12 <sup>1</sup> / <sub>4</sub>	@ 12 <sup>1</sup> / <sub>4</sub>
Do	23, 1874.....	1 60	@ 1 65	1 40	@ 1 42 <sup>1</sup> / <sub>2</sub>	12 <sup>1</sup> / <sub>4</sub>	@ 12 <sup>1</sup> / <sub>4</sub>
Do	30, 1874.....	1 80	@ 1 85			12 <sup>1</sup> / <sub>4</sub>	@
April	6, 1874.....	1 95	@ 2 00	1 60	@ 1 62 <sup>1</sup> / <sub>2</sub>	12 <sup>1</sup> / <sub>4</sub>	@
Do	13, 1874.....	1 82	@ 1 87 <sup>1</sup> / <sub>2</sub>	1 55	@	12 <sup>1</sup> / <sub>4</sub>	@ 12 <sup>1</sup> / <sub>4</sub>
Do	20, 1874.....	1 80	@ 1 85	1 62	@ 1 65	12 <sup>1</sup> / <sub>4</sub>	@ 12 <sup>1</sup> / <sub>4</sub>
Do	27, 1874.....	1 97	@ 2 05	1 65	@ 1 70	12	@ 12 <sup>1</sup> / <sub>4</sub>
May	4, 1874.....	1 92	@ 1 95	1 55	@ 1 60	12 <sup>1</sup> / <sub>4</sub>	@ 13
Do	11, 1874.....	1 67	@ 1 70	1 47 <sup>1</sup> / <sub>2</sub>	@	12 <sup>1</sup> / <sub>4</sub>	@ 12 <sup>1</sup> / <sub>4</sub>
Do	18, 1874.....	1 25	@ 1 32 <sup>1</sup> / <sub>2</sub>	1 00	@	12	@ 12 <sup>1</sup> / <sub>4</sub>
Do	25, 1874.....	1 35	@ 1 47	1 15	@ 1 17 <sup>1</sup> / <sub>2</sub>	11 <sup>3</sup> / <sub>4</sub>	@
June	1, 1874.....	1 20	@ 1 30	96	@ 97 <sup>1</sup> / <sub>2</sub>	11 <sup>3</sup> / <sub>4</sub>	@ 11 <sup>1</sup> / <sub>4</sub>
Do	8, 1874.....	1 02	@ 1 10	82	@ 85	11	@ 11 <sup>1</sup> / <sub>4</sub>
Do	15, 1874.....	1 02	@ 1 05	77	@ 80	11	@ 11
Do	22, 1874.....	1 07	@ 1 10	85	@ 87 <sup>1</sup> / <sub>2</sub>	11	@
Do	29, 1874.....	1 17	@ 1 21	87	@ 90	11	@
July	6, 1874.....	1 12	@ 1 15	82	@ 85	11	@
Do	13, 1874.....	1 02	@ 1 05	72	@ 75	10 <sup>1</sup> / <sub>4</sub>	@ 10 <sup>1</sup> / <sub>4</sub>
Do	20, 1874.....	1 12	@ 1 15	82	@ 90	10 <sup>1</sup> / <sub>4</sub>	@
Do	27, 1874.....	1 00	@ 1 05	75	@ 76 <sup>1</sup> / <sub>4</sub>	9 <sup>3</sup> / <sub>4</sub>	@ 10
August	3, 1874.....	90	@ 95	75	@ 76 <sup>1</sup> / <sub>4</sub>	9 <sup>3</sup> / <sub>4</sub>	@ 10
Do	10, 1874.....	1 05	@ 1 07 <sup>1</sup> / <sub>2</sub>	77	@ 80	10 <sup>1</sup> / <sub>4</sub>	@ 10 <sup>1</sup> / <sub>4</sub>
Do	17, 1874.....	1 00	@ 1 05	75	@ 77 <sup>1</sup> / <sub>2</sub>	9 <sup>3</sup> / <sub>4</sub>	@ 9 <sup>3</sup> / <sub>4</sub>
Do	24, 1874.....	1 00	@ 1 02 <sup>1</sup> / <sub>2</sub>	75	@ 82 <sup>1</sup> / <sub>2</sub>	9	@ 9 <sup>1</sup> / <sub>4</sub>
Do	31, 1874.....	1 10	@ 1 12 <sup>1</sup> / <sub>2</sub>	90	@ 92	9 <sup>3</sup> / <sub>4</sub>	@ 10
September	7, 1874.....	90	@ 92	75	@ 80	9 <sup>3</sup> / <sub>4</sub>	@ 9 <sup>3</sup> / <sub>4</sub>
Do	14, 1874.....	1 03	@	61	@ 75	9 <sup>1</sup> / <sub>4</sub>	@ 9 <sup>1</sup> / <sub>4</sub>
Do	21, 1874.....	92	@	72	@ 75	9 <sup>1</sup> / <sub>4</sub>	@ 9 <sup>1</sup> / <sub>4</sub>
Do	28, 1874.....	87	@	70	@ 72	9 <sup>1</sup> / <sub>4</sub>	@ 10
October	5, 1874.....	1 05	@ 1 06	75	@ 76 <sup>1</sup> / <sub>4</sub>	9 <sup>3</sup> / <sub>4</sub>	@ 10 <sup>1</sup> / <sub>4</sub>
Do	12, 1874.....	1 00	@	73	@ 75	9 <sup>3</sup> / <sub>4</sub>	@ 9 <sup>3</sup> / <sub>4</sub>
Do	19, 1874.....	90	@ 92 <sup>1</sup> / <sub>2</sub>	70	@ 71 <sup>1</sup> / <sub>2</sub>	9 <sup>3</sup> / <sub>4</sub>	@ 9 <sup>3</sup> / <sub>4</sub>
Do	26, 1874.....	85	@ 87 <sup>1</sup> / <sub>2</sub>	60	@ 61 <sup>1</sup> / <sub>2</sub>	9 <sup>3</sup> / <sub>4</sub>	@ 9 <sup>3</sup> / <sub>4</sub>
November	2, 1874.....	67	@ 68 <sup>1</sup> / <sub>4</sub>	42	@ 50	8 <sup>3</sup> / <sub>4</sub>	@ 9
Do	9, 1874.....	72	@ 75	42	@ 51	8 <sup>3</sup> / <sub>4</sub>	@ 9
Do	16, 1874.....	72	@ 80	41	@ 48	8 <sup>3</sup> / <sub>4</sub>	@ 9
Do	23, 1874.....	72	@ 75	42	@ 50	8 <sup>3</sup> / <sub>4</sub>	@
Do	30, 1874.....	75	@	51	@ 53 <sup>3</sup> / <sub>4</sub>	8 <sup>3</sup> / <sub>4</sub>	@ 8 <sup>1</sup> / <sub>4</sub>
December	7, 1874.....	77 <sup>1</sup> / <sub>2</sub>	@ 81 <sup>1</sup> / <sub>4</sub>	55	@ 56 <sup>1</sup> / <sub>4</sub>	8 <sup>3</sup> / <sub>4</sub>	@ 8 <sup>3</sup> / <sub>4</sub>
Do	14, 1874.....	80	@ 83	60	@ 61 <sup>1</sup> / <sub>4</sub>	9	@ 9 <sup>1</sup> / <sub>4</sub>
Do	21, 1874.....	85	@ 87 <sup>1</sup> / <sub>2</sub>	67	@ 71 <sup>1</sup> / <sub>4</sub>	9 <sup>1</sup> / <sub>4</sub>	@ 9 <sup>1</sup> / <sub>4</sub>

## ROLLING MILLS.

The past year has been a very severe one to the iron manufacturing interests which form so large a share of the industries of Pittsburg. The effects of the panic of 1873 have been very severely felt throughout the entire year, causing a shrinkage of values of thirty per cent. in manufactured iron, and twenty per cent. in pig metal. The demand for manufactured iron is also largely decreased, and during the month of December the difficulties culminated in a wages dispute between the manufacturers and the boilers in their employ, which has resulted in the stoppage of the puddling department of every rolling mill in the city, with one exception. Under such circumstances the natural result would be a large decrease in the consumption of material and the production of manufactured iron, accompanied by a large proportion of failures. Such have been the results to a certain degree, but the statistics presented below, and the facts as to the failures of the past year, in this branch of trade, show a much smaller proportion of the results, usual to such a state of depression and shrinkage of values, than might have been expected. It is safe to say that the operations of the past year afford an extraordinary proof of the stability and strength of the iron interests of Pittsburg.

The statistics given below show the amount of pig iron, ore, blooms, and scrap iron received during the past year. The totals are as follows:

Pig iron, tons.....	268,415
Iron ore, tons.....	216,358
Blooms, tons.....	7,659
Scrap iron, tons.....	19,030
Total, 1874.....	<u>511,462</u>

This shows a falling off from the receipts of 1873 of 119,720 tons, of which decrease 104,484 tons were in the receipts of ore. The entire decrease from receipts of 1872 is 67,451 tons, while there is an aggregate increase over the receipts of 1871 of 69,255 tons, so that while the consumption of material in our mills and furnaces during 1874, was less than during the two years immediately preceding, it was considerably larger than during any year previous to 1872.

The number and capacity of the blast furnaces here has not been changed during the year, their aggregate annual capacity being placed at 166,400 tons. The actual product for the year will of course fall short of this amount through interruptions and the unfavorable state of the market.

The production of the rolling mills during the year will show a falling off in the number of tons of iron produced, which is much less than the pro-

trated condition of the iron trade would indicate. In fact, when we take into account the stoppage of some works through the financial embarrassments of their owners and the restriction of operations through wages, disputes and similar difficulties, it will be found that the production of the works that have been in operation is fully up to their average, estimated in tons. But when the aggregate value of the production is estimated the decrease is shown to be very large, and the unfavorable character of the year's operations is very apparent. The total production of manufactured iron in 1873 is estimated at 435,000 tons, that of 1874, at 370,000 tons, a decrease of 65,000. But the value of the manufactures of 1874 is estimated at \$34,800,000, while that of 1873 is placed at \$20,350,000, a decrease which is proportionately twice as great as that of the production measured by tons. The value of the raw material used in the rolling mills during 1874 is estimated at \$14,068,440, and the amount paid for labor is calculated to be about \$6,000,000.

We give below detailed statistics of the receipts of pig metal, ore, blooms, &c., for the year ending December 1, 1874:

PENNSYLVANIA RAILROAD PIG IRON AND BLOOM RECEIPTS.

	PIG IRON.		BLOOMS.	
	Cars.	Tons.	Cars.	Tons.
December, 1873 .....	244	2,684	17	187
January, 1874 .....	351	3,861	9	99
February .....	199	2,189	13	143
March .....	191	2,101	7	77
April .....	280	3,080	9	99
May .....	192	2,112	10	110
June .....	175	1,925	10	110
July .....	152	1,672	15	165
August .....	142	1,562		
September .....	122	1,342	12	132
October .....	138	1,518	18	198
November .....	75	825	5	55
Total .....	2,261	24,871	125	1,375



## PITTSBURG, FORT WAYNE AND CHICAGO RAILROAD.

	PIG IRON.	ORE.	BLOOMS.	SCRAP IRON.
	Tons.	Tons.	Tons.	Tons.
December, 1873.....	12,380			230
January, 1874.....	15,790	200		310
February.....	13,700	760		360
March.....	7,950	1,540		850
April.....	11,715	1,240	130	650
May.....	11,250	1,250		950
June.....	14,620	920		1,180
July.....	15,011	2,090		700
August.....	11,200	5,410	120	750
September.....	12,550	4,050		980
October.....	11,740	1,830	90	1,180
November.....	7,910	320		570
Total.....	145,816	20,010	340	8,710

## CLEVELAND AND PITTSBURG RAILROAD AND MANCHESTER STATION.

	PIG IRON.	ORE.	BLOOMS.	SCRAP IRON.
	Tons.	Tons.	Tons.	Tons.
December, 1873.....	1,480	14,340		150
January, 1874.....	1,740	12,890		150
February.....	740	17,590		170
March.....	1,470	17,010		140
April.....	1,560	17,510	530	250
May.....	910	10,740	690	110
June.....	1,030	17,080	340	300
July.....	2,880	14,610		170
August.....	300	14,450	160	220
September.....	1,240	7,650	20	180
October.....	4,350	8,240		250
November.....	2,180	6,110		160
Total.....	19,880	158,220	1,720	2,250

## ALLEGHENY VALLEY RAILROAD.

	PIG IRON.	ORE.	BLOOMS.	SCRAP IRON.
	Tons.	Tons.	Tons.	Tons.
December, 1873.....	1,400		160	120
January, 1874.....	2,530	200		
February.....	1,960	80	120	
March.....	1,650		20	650
April.....	1,050		30	270
May.....	1,190			150
June.....	2,060	60	610	230
July.....	1,790	80	530	240
August.....	1,640	60	270	220
September.....	1,660	130	180	150
October.....	1,250		900	90
November.....	850	170	630	410
Total.....	19,030	780	3,450	2,530

## BUSINESS OF PITTSBURG.

## PITTSBURG AND CONNELLSVILLE RAILROAD.

PIG IRON.		PIG IRON.	
	Tons.		Tons.
December, 1873.....	1,770	July, 1874.....	2,000
January, 1874.....	1,380	August.....	1,220
February.....	870	September.....	1,690
March.....	600	October.....	1,810
April.....	930	November.....	1,070
May.....	1,760		
June.....	1,970	Total.....	16,670

## WESTERN PENNSYLVANIA RAILROAD.

PIG IRON.		PIG IRON.	
	Tons.		Tons.
December, 1873.....	1,500	July, 1874.....	1,380
January, 1874.....	1,790	August.....	1,360
February.....	890	September.....	1,690
March.....	1,930	October.....	1,530
April.....	1,530	November.....	1,800
May.....	2,110		
June.....	1,380	Total.....	18,890

## RECAPITULATION.

	PIG IRON.	BLOOMS.	ORE.	SCRAP IRON.
	Tons.	Tons.	Tons.	Tons.
Pennsylvania railroad.....	24,871	1,375	880	3,845
Pittsburg, Ft. Wayne and Chicago railroad,	145,816	340	20,010	8,710
Cleveland and Pittsburg railroad.....	19,880	1,720	158,220	2,250
Pittsburg and Connellsville railroad.....	16,670			
Allegheny Valley railroad.....	19,000	3,450	780	2,530
Western Pennsylvania railroad.....	18,890			
Pittsburg, Cincinnati and St. Louis railroad,				1,540
Total.....	245,127	6,885	179,890	18,875
By river.....	23,288	774	36,468	155
	268,415	7,659	216,358	19,030

## GRAIN RECEIPTS.

The grain and produce trade of Pittsburg, during the past year, has had many difficulties with which to contend. The depressed condition of other industries has to a certain extent decreased the consumption of leading staples, and other causes such as discriminations in freight rates, &c., have operated to decrease the volume of trade in this line. Still there have been steps taken by which the interests of this department of business have been materially advanced. The organization of the Corn and Produce Exchange, which was accomplished in November, has been found to greatly facilitate the transaction of business, and by the union of the trade in one body, a strong influence has been brought to bear in favor of more equitable terms of transportation. By reference to the tables given below, it will be seen that the total amount of grain handled in Pittsburg during the twelve months ending December 1, 1874, was 3,558,170 bushels, while in 1873 the total amount was 4,572,208 bushels, a falling off of 1,014,038 bushels. The elevator receipts, by a similar comparison, show an increase of 90,875 bushels. The trade in flour has increased 63,408 bushels, and the amount of cheese handled shows an increase of nearly 20 per cent. over the previous year, while apples, butter and bacon show a slight falling off. The following tables give the receipts of the leading articles of breadstuffs and produce during the year ending December 1, 1874 :

## GRAIN RECEIPTS.

	Wheat. Bushels.	Barley. Bushels.	Rye. Bushels.	Oats. Bushels.	Corn. Bushels.
December, 1873.....	114,208	35,217	8,612	33,088	40,350
January, 1874 .....	54,820	100,307	15,462	82,068	47,552
February.....	66,702	51,738	27,198	80,530	69,638
March.....	21,340	41,040	14,297	56,370	35,662
April.....	29,772	51,110	10,178	92,735	43,023
May.....	46,882	7,380	2,717	134,352	62,120
June.....	29,077	.....	6,358	156,848	29,507
July.....	35,517	725	2,517	116,815	19,575
August.....	73,752	4,842	4,220	290,510	49,635
September .....	29,607	8,055	3,825	153,928	20,240
October .....	41,505	39,480	18,825	208,360	58,167
November.....	50,912	57,400	17,475	113,390	40,605
Total.....	594,094	397,294	131,684	1,518,994	516,104



## BUSINESS OF PITTSBURG.

## PRODUCE RECEIPTS.

	Flour. Barrels.	Apples. Barrels.	Cheese. Boxes.	Butter. Packages	Racon. Pieces.
December, 1873.....	34,896	5,616	4,253	684	97,362
January, 1874.....	36,165	4,655	673	790	59,998
February.....	37,632	3,672	723	1,035	62,261
March.....	38,747	3,078	344	1,511	30,592
April.....	44,860	4,096	1,732	1,162	20,021
May.....	35,077	2,249	4,325	832	31,044
June.....	35,137	222	5,383	634	12,958
July.....	33,330	701	5,348	606	32,409
August.....	43,363	2,211	4,887	661	22,089
September.....	31,988	1,023	1,852	737	7,098
October.....	43,364	4,276	7,617	805	17,337
November.....	46,254	14,124	16,124	1,080	11,073
Total.....	460,013	45,923	53,261	10,537	345,142

## PITTSBURG GRAIN ELEVATOR RECEIPTS.

	Wheat. Bushels.	Barley. Bushels.	Rye. Bushels.	Oats. Bushels.	Corn. Bushels.
December, 1873.....	13,014	16,284	3,864	4,724	4,318
January, 1874.....	33,520	69,024	9,341	21,640	21,637
February.....	43,086	31,781	23,894	22,382	26,297
March.....	8,040	38,174	1,508	14,768	9,271
April.....	14,153	26,195	330	20,466	9,708
May.....	30,747	3,429	.....	55,254	44,700
June.....	14,281	1,972	1,539	86,212	19,476
July.....	24,161	392	794	69,542	12,648
August.....	36,855	4,350	2,295	208,382	20,923
September.....	12,442	7,433	3,642	108,285	12,003
October.....	20,457	21,730	9,217	138,720	19,610
November.....	11,317	30,883	3,278	49,064	12,899
Total.....	263,053	251,647	59,502	839,441	213,490

## STEAMBOAT TONNAGE.

The statistics of steamboat tonnage owned and operated by Pittsburg capital and in Pittsburg business, shows an increase over last year of five vessels and 1,573.30 tons. We give below a comparative statement of the number of vessels and their aggregate tonnage :

	1873.	1874.
Passenger boats.....	17	17
Ferry boats.....	9	10
Tow boats.....	117	121
Freight boats.....	3	3
	<u>146</u>	<u>151</u>
Total tonnage.....	<u>32,962.61</u>	<u>34,535.91</u>

## APPROXIMATE ESTIMATE OF OTHER INDUSTRIES.

In addition to the above report of the leading manufacturing interests of Pittsburg I will here add what perhaps is only entitled to be considered as approximate estimates of the annual production of other interests less in amount, but which, in the aggregate, serve to give a better idea of the annual business of that city.

The glass manufacturers of Pittsburg are a sort of close corporation, and I have never been able to obtain from them any detailed report of the capital employed, or the annual product of their establishments.

The census report of 1870 puts down Allegheny county as having 32 glass establishments, capital invested, \$460,800—producing, in 1869, \$5,-832,492.

The number of establishments is undoubtedly 12 or 15 below the true number, the capital involved is five times, or \$2,300,000—the annual product is probably twice the amount of the census returns, or \$11,600,000.

The manufacturers of steel are like the glass men, not disposed to enlighten the public in regard to their capital or annual products.

The census returns report Allegheny as having nine steel manufacturing establishments of all kinds. The capital involved reported at \$2,095,400; the annual production of 1869 at \$3,998,413.

This is also below the production of the past year. I suppose about \$6,000,000 to be a fair estimate. The census returns give Allegheny county only one copper manufacturing establishment, capital invested, \$250,000, and annual product, \$276,000. There are at least two large rolling mills, I know not how many coppersmithing establishments. The annual product must probably reach \$3,000,000.

MANUFACTURES.	Am't of capital invested.	Value of products.
Ale and beer .....	\$2,000,000	\$3,500,000
White lead .....	1,200,000	1,500,000
Tanneries .....	1,500,000	1,800,000
Tobacco factories .....	850,000	2,000,000
Cotton and woolen factories .....	1,500,000	1,800,000
Chair and cabinet factories .....	400,000	500,000
Brass foundries .....	400,000	500,000
Planing mills .....	500,000	700,000
Potteries .....	150,000	150,000
Brick yards .....	150,000	300,000
Turning shops .....	200,000	400,000
Carriage factories .....	350,000	350,000
Distilleries .....	300,000	2,500,000
Wagon factories .....	150,000	250,000
Brush factories .....	40,000	75,000
Marble yards .....	160,000	400,000
Bellows factories .....	30,000	60,000

## BUSINESS OF ERIE

## THE PORT OF ERIE.

The tabular statement of the business of this port, will be read with attention by every one interested in the growth of its foreign and domestic trade and the consequent increase of commercial activity in the city. There is no more flattering proof of the future importance of Erie as a transfer station on the great water and land grain transportation route from the prairies to the seacoast than these yearly exhibits of the fast increasing business done in the harbor by the various transportation companies which centre here.

The most important portions of the trade are, of course, the imports, foreign and coastwise. Of these the grain business assumes each year larger and larger proportions. In all the classes of grain there has been a large increase of business over the year 1873, and in all classes but one (oats) there has been an increase over 1872, and all previous years. Of barley there were imported during this year 3,868 bushels more than in 1873, and in round numbers, 66,000 bushels more than in 1872. 77,090 bushels of peas have been imported this year, almost all of which is a business of an entirely new growth. Corn shows an increase of 159,000 bushels over 1873 and 879,368 bushels over 1872. 243,446 bushels of oats have been received this year in excess of the receipts of 1873; but 353,000 bushels less than in 1872, which was a remarkable year in the transportation of this grain and shows an excess of 1,663 bushels received over the combined receipts of 1873 and 1874. It is, however, in the great bread staple of the world that the most flattering exhibit is made. Wheat is largely and steadily increasing from year to year, as the bulk of all its freight transactions. In 1874, 1,086,251 more bushels were brought into the harbor of Erie than during the year 1873, and 2,610,633 bushels more than in 1872; showing a grand increase over the total business of both 1872 and 1873 of 98,877 bushels. Of flour 295,647 barrels were received during the year, which represent 1,478,235 bushels of wheat, swelling the combined receipts of wheat and its products for the year to 5,076,242 bushels. There was an increase of 79,338 barrels of flour over the business of 1873, and of 116,884 barrels over that of 1872.

The increase in the receipts of breadstuffs shows to a remarkable degree the advantages which this port possesses for the ready transfer of freights and quick dispatch to tide water at Philadelphia. Of the imports which are to a great extent employed in home manufacturing industry, pig-iron alone shows an increase in the amount brought to the port, and that increase



is merely nominal. This fact is of course fully accounted for by the depression in the iron industry and will be remedied at once on the revival of that business. The receipts of lumber, although a million and a half of feet less than that of the year 1873, was still eight and a half millions of feet greater than during the year 1872.

The present lack of facilities in railway communication with the coal fields prevents its increasing or even holding its own in the anthracite trade which goes in bulk to Buffalo, but still the docking facilities of its harbor continues to make the shipping of coal profitable. As a place of shipment for bituminous coal, it is hoped by the early opening of an additional road to the partly developed regions of Mercer and Lawrence counties, it may be able to regain its place beside Cleveland and Buffalo and even to lead them in this article of export. The entire falling off in its coal export, during this year of exceptionally hard times when many mines have been deserted and unworked, has been 108,000 tons—a fact which is not at all discouraging. In railroad iron business has increased in spite of the depression. 12,465 tons were exported in excess of the trade of 1873, and although the amount still falls short of the immense trade of 1872, it is a general increase over the figures of the last six years with that one exception.

Plaster is comparatively a new article of export and one which promises rapidly to increase. Nearly twenty-five hundred barrels were sent out in excess of the exports of 1873, and more than two thousand in excess of the trade of 1872.

Among other articles growing to be important as exports are its Lake Shore grapes. Nearly 10,000 baskets were shipped during the year, and the region is already prominently rivaling Ohio both as regards winemaking and the supplying of home and foreign markets.

The number of vessels entering the port fell off during the season about 300—showing 63,012 tons less than 1873—figures which indicate that the vessels plying to its channel are larger than the average and require a greater depth of water. The channel is naturally very favorable for large craft and requires comparatively little work to keep it in proper order, and the importance of its trade demands that the government should never neglect the outlay which will secure a thoroughly safe and commodious harbor. There is no other place on the lakes where appropriations are so uniformly productive of good results as in Presque Isle Bay. The present winter has already wrought some damages which need prompt attention and another spring should see the work of repairs persistently carried out. Half a million of dollars could be expended judiciously in and about the bay, and the River and Harbor Appropriation Committee can find no place on the entire line of sea and lake coast where that amount would do more good than at Erie

## COMMERCE OF THE PORT OF ERIE.

*Imports and exports for 1874, compared with previous years.*

IMPORTS.	1868.	1869.	1870.	1871.	1872.	1873.	1874.
Barley, bushels.....	52,822	188,091	359,767	268,391	140,750	202,559	206,435
Corn, bushels.....	517,684	637,497	301,785	554,228	621,113	1,341,418	1,500,481
Flour, barrels.....	117,759	156,328	167,610	229,119	178,763	213,309	295,647
Iron ore, tons.....	112,498	112,406	175,733	197,755	215,219	200,600	154,462
Lumber, feet.....	7,840,624	10,459,917	13,183,000	25,971,295	21,287,740	31,299,623	29,767,387
Oats, bushels.....	314,319	127,196	42,528	521,000	947,895	351,393	594,839
Peas, bushels.....						756	77,846
Pig iron, tons.....	3,575	5,153	1,372	4,955	2,667	1,532	2,163
Wheat, bushels.....	424,256	672,556	731,898	770,261	937,374	2,511,756	3,598,607
EXPORTS.							
Coal, tons.....	259,012	309,434	312,081	377,457	350,159	325,711	207,500
Grapes, baskets.....							9,901
Iron, railroad, tons.....	301	9,432	13,281	11,417	56,163	3,865	16,331
Iron pipe, pieces.....	10,606		20,470	7,791	8,411	21,073	16,492
Iron pipe, tons.....					1,737	55	106
Nails, kegs.....	3,061				23,748	4,424	15,442
Plaster, ground, barrels.....			30,107		833	1,104	2,836
Stoves.....	1,320	558	498	274	1,400	2,048	712
Sugar, barrels.....	7,688	15,273	20,610	41,101	58,823	39,944	11,416
Vessels entered and cleared, number.....	2,222	2,438	2,306	2,974	2,392	2,395	2,007
Tonnage of the same.....	740,894	878,600	899,892	1,398,771	1,277,704	1,160,017	1,037,005
Enrolled tonnage.....	11,893	12,793	13,837	20,681	16,779	25,934	25,146

## PORT OF PHILADELPHIA.

The Bureau is indebted to the enterprise and liberality of Peter Wright & Sons, of Philadelphia, for the very full and elaborate report of the business of that city for 1874. Not only did they subject themselves to great labor in collecting and furnishing this exceedingly creditable report, but they generously refused all compensation therefor. We therefore tender them our own thanks and that of our readers for their gratuitous services.

## STATEMENT OF TOTAL IMPORTS AND EXPORTS OF THE UNITED STATES,

*Including gold and silver; with those of her five principal ports for fiscal years ending June 30, 1872, 1873, 1874, compiled from statistics furnished by Mr. Edward Young, Chief of Bureau of Statistics, Washington, D. C.*

## IMPORTS.

INTO.	Value for 1872.	Value for 1873.	Per centage of gain or loss of 1873 over 1872.	Value for 1874.	Per centage of gain or loss of 1874 over 1873.
United States .....	\$640,338,766	\$663,617,147	3.6 increase.	\$595,861,248	11.3 decrease.
Philadelphia .....	20,383,853	25,393,150	24.5 "	26,447,037	4.15 increase.
Boston .....	70,398,185	68,083,307	3.4 decrease.	52,212,405	30. decrease.
New Orleans .....	18,542,188	19,933,344	7.5 increase	14,533,864	37.1 "
New York .....	418,515,829	426,321,427	1.86 "	395,133,622	7.88 "
Baltimore .....	28,836,305	29,287,603	1.6 "	29,302,138	Stationary.
All other ports .....	83,662,406	94,598,316	13.7 "	78,232,182	20.9 decrease.

## EXPORTS.

FROM.	Value for 1872.	Value for 1873.	Per centage of gain or loss of 1873 over 1872.	Value for 1874.	Per centage of gain or loss of 1874 over 1873.
United States .....	\$571,989,467	\$677,282,074	18.4 increase,	\$716,819,392	5.85 increase
Philadelphia .....	21,016,750	24,239,337	15.3 "	33,121,337	36.6 "
Boston .....	23,199,668	29,392,645	26.6 "	30,610,650	4.14 "
New Orleans .....	90,802,849	104,898,732	15.5 "	93,715,710	11.93 decrease
New York .....	285,574,892	332,102,062	16.3 "	354,993,732	6.89 increase
Baltimore .....	18,459,533	19,421,723	5.2 "	27,692,709	42.58 "
All other ports .....	132,935,775	167,227,555	23.6 "	176,685,254	5.06 "



## DOMESTIC EXPORTS.

Domestic export statement, by articles and countries, of commodities, the growth, produce and manufacture of the United States to foreign countries from the port of Philadelphia, during the year 1874:

ARTICLES AND COUNTRIES.	Quantity.	Value.
<i>Austria</i> :—		
Petroleum, (refined,) galls.....	1, 145, 852	\$140, 092
<i>Belgium</i> :—		
Bark.....		3, 710
Bonedust, cwt.....	860	1, 293
Bone black, lbs.....	66, 048	3, 050
Bread and breadstuff:		
Bread and biscuit, lbs.....	5, 789	408
Indian corn, bushels.....	26, 500	23, 850
Rye, bushels.....	104, 616	99, 801
Wheat, bushels.....	602, 486	864, 844
Wheat flour, bbls.....	5, 891	39, 693
Cotton, lbs.....	1, 854, 693	278, 203
Drugs and chemicals.....		13, 016
Furs.....		900
Hair, unmanufactured.....		14, 692
Hides.....		205, 250
Iron manufactures.....		15, 194
Leather, lbs.....	547, 282	149, 800
Nickel, lbs.....	500	1, 500
Petroleum, (refined,) galls.....	22, 188, 497	2, 905, 098
Naphtha and benzine, galls.....	133, 561	8, 685
Provisions.....		343, 850
Starch, lbs.....	3, 000	3, 780
Sweepings.....		3, 000
Tallow, lbs.....	2, 260, 206	181, 295
Tobacco:		
Leaf, lbs.....	4, 586, 364	454, 716
Segars, M.....	74	5, 660
Other manufactures.....		9, 168
Wearing apparel.....		1, 350
Wood:		
Boards, M.....	74	4, 321
Manufactures.....		10, 258
Miscellaneous.....		2, 582
Total.....		5, 648, 487
<i>Brazil</i> :—		
Wheat flour, bbls.....	1, 595	12, 600
Boards, M.....	166	3, 600
Miscellaneous.....		2, 445
Total.....		18, 645
<i>Denmark</i> :—		
Petroleum, (refined,) galls.....	1, 709, 428	229, 672
<i>Danish West Indies</i> :—		
Coal, tons.....	246	1, 230
<i>France</i> :—		
Bark.....		1, 791
Indian corn, bushels.....	71, 143	60, 303
Rosin, bbls.....	504	1, 502
Petroleum, (crude,) galls.....	1, 608, 454	145, 439
Petroleum (refined,) galls.....	493, 193	59, 196
Naptha and benzine, galls.....	766, 268	57, 042
Tallow, lbs.....	899, 196	73, 170
Cooperage.....		1, 938
Total.....		400, 381

## DOMESTIC EXPORTS.

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DOMESTIC EXPORTS—*Continued.*

ARTICLES AND COUNTRIES.	Quantity.	Value.
<i>French West Indies:—</i>		
Wheat flour, bbls.....	2,405	\$16,141
Other breadstuffs.....		1,620
Petroleum, (refined,) galls.....	9,820	2,070
Provisions.....		3,629
Tobacco leaf, lbs.....	9,690	924
Boards, M.....	50	1,000
Cooperage.....		1,505
Miscellaneous.....		366
Total.....		27,255
<i>French Possessions in Africa:—</i>		
Petroleum, (refined,) galls.....	110,000	13,200
<i>Germany:—</i>		
Petroleum, (refined,) galls.....	25,535,905	3,364,941
Benzine, galls.....	157,635	12,800
Miscellaneous.....		60
Total.....		3,777,801
<i>England:—</i>		
Agricultural implements.....		45,732
Bark.....		19,154
Books.....		2,273
Bread and breadstuffs:		
Bread and biscuits, lbs.....	12,688	2,040
Indian corn, bushels.....	606,915	521,166
Wheat, bushels.....	1,198,151	1,744,142
Wheat flour, barrels.....	52,219	357,399
Carriages.....		2,170
Copper ore, tons.....	20	1,500
Cotton, unmanufactured, lbs.....	12,443,423	1,889,778
Cotton manufactures.....		30,103
Dentists' material.....		31,598
Drugs.....		30,146
Dyestuffs.....		3,308
Fruits.....		14,601
Furs.....		3,980
Grease, lbs.....	97,091	7,713
Hair, unmanufactured.....		17,874
Hides.....		427,265
Iron ropes.....		83,116
Leather and manufactures.....		162,183
Rosin, bbls.....	1,566	6,006
Oilcake, lbs.....	13,546,726	269,895
Oils:		
Petroleum, refined, galls.....	3,523,310	473,325
Naphtha, galls.....	135,926	11,214
Residuum, bbls.....	3,742	7,800
Paintings.....		1,120
Provisions.....		2,788,235
Rags, lbs.....	97,235	6,649
Seeds.....		6,956
Sewing machines.....		1,854
Spirits turpentine, galls.....	4,470	2,980
Molasses, galls.....	526,601	126,257
Sweepings.....		2,776
Tallow, lbs.....	5,187,086	448,331
Tobacco, leaf, lbs.....	4,778,694	503,146
Tobacco, manufactured.....		11,313
Wax, lbs.....	17,221	5,684
Wearing apparel.....		1,400
Wood—Boards, M.....	493	19,696
Wood manufactures.....		29,597
Miscellaneous.....		7,859
Total.....		10,131,334

DOMESTIC EXPORTS—*Continued.*

ARTICLES AND COUNTRIES.	Quantity.	Value.
<i>Ireland:—</i>		
Indian corn, bushels.....	1, 416, 629	\$1, 231, 277
Wheat, bushels.....	1, 424, 077	2, 045, 386
Wheat flour, bbls.....	6, 354	45, 135
Oilcake, lbs.....	2, 714, 527	55, 865
Petroleum, refined, galls.....	2, 141, 177	289, 789
Naphtha, galls.....	430, 681	36, 872
Residuum, bbls.....	3, 200	11, 388
Seeds.....		708
Tallow, lbs.....	302, 500	23, 000
Miscellaneous.....		5, 648
Total.....		3, 745, 049
<i>Gibraltar:—</i>		
Rosin, bbls.....	1, 020	2, 565
Petroleum, refined, galls.....	1, 954, 531	259, 269
Total.....		261, 834
<i>Nova Scotia:—</i>		
Indian corn, bushels.....	17, 170	15, 170
Indian corn meal, bbls.....	675	2, 880
Flour, bbls.....	1, 222	7, 680
Coal, tons.....	14, 137	70, 333
Iron manufactures.....		44, 458
Provisions.....		1, 065
Miscellaneous.....		848
Total.....		142, 424
<i>British West Indies:—</i>		
Bread and biscuit, lbs.....	746, 782	29, 973
Indian corn, bushels.....	43, 260	38, 833
Indian corn meal, bbls.....	25, 441	109, 240
Oats, bushels.....	29, 156	20, 129
Wheat flour, bbls.....	70, 655	459, 301
Candles, lbs.....	18, 240	2, 745
Gold coin.....		1, 800
Drugs.....		951
Iron manufactures.....		759
Matches.....		1, 662
Oilcake, lbs.....	2, 035, 129	47, 117
Petroleum, refined, galls.....	111, 944	19, 457
Perfumery.....		4, 174
Provisions.....		105, 130
Soap, lbs.....	72, 036	5, 100
Tallow, lbs.....	6, 875	925
Tobacco, leaf, lbs.....	457, 792	60, 368
Tobacco, manufactured.....		2, 154
Wood, boards, M.....	107	3, 113
Cooperage.....		21, 844
Manufactures.....		3, 899
Miscellaneous.....		7, 934
Total.....		946, 608
<i>Italy:—</i>		
Indian corn, bushels.....	15, 105	12, 087
Rosin, bbls.....	1, 453	4, 116
Petroleum, refined, galls.....	2, 895, 481	392, 285
Spirits of turpentine, galls.....	9, 690	5, 620
Miscellaneous.....		66
Total.....		414, 171
<i>Mexico:—</i>		
Coal, tons.....	3, 640	16, 860
Miscellaneous.....		1, 185
Total.....		17, 045



## DOMESTIC EXPORTS.

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DOMESTIC EXPORTS—*Continued.*

ARTICLES AND COUNTRIES.	Quantity.	Value.
<i>Netherlands:—</i>		
Petroleum, refined, galls.....	6,743,698	896,430
Petroleum, crude, galls.....	5,660	500
Total .....		896,930
<i>Dutch West Indies:—</i>		
Indian corn, bushels .....	1,650	1,670
Indian corn meal, bbls .....	860	3,440
Rye flour, bbls .....	258	\$1,430
Wheat flour, bbls.....	2,727	17,175
Oilcake, lbs.....	61,500	1,476
Provisions.....		2,993
Tobacco, leaf, lbs.....	11,883	1,681
Boards, M.....	80	1,750
Miscellaneous.....		3,646
Total .....		35,256
<i>Peru:—</i>		
Iron, manufactures.....		771,147
<i>Portugal:—</i>		
Rye flour, bbls .....	300	1,350
Wheat, bushels .....	45,320	52,639
Wheat flour, bbls.....	1,018	6,110
Rosin, bbls .....	800	3,143
Petroleum, refined, galls.....	553,430	78,971
Cooperage.....		4,173
Miscellaneous.....		348
Total .....		146,734
<i>Russia:—</i>		
Iron—Locomotives .....	12	149,088
Petroleum, refined, galls.....	884,983	135,954
Total .....		284,042
<i>Spain:—</i>		
Petroleum, refined, galls.....	623,679	80,606
Naphtha, galls .....	18,881	1,794
Total .....		82,400
<i>Cuba:—</i>		
Agricultural implements.....		4,204
Bones, cwts .....	750	1,421
Boneblack, lbs.....	506,889	21,349
Brooms.....		1,666
Indian corn, bushels .....	4,764	4,420
Wheat flour, bbls .....	3,752	27,943
Coal, tons.....	23,703	120,200
Drugs and chemicals.....		15,115
Gas fixtures .....		5,881
Glass .....		1,705
Gold coin.....		77,908
Hay, tons.....	139	3,185
Iron manufactures.....		141,968
Leather manufactures.....		2,399
Petroleum, refined, galls.....	5,945	1,221
Rice, lbs .....	66,918	2,115
Paper.....		3,024
Perfumery .....		3,707
Provisions.....		44,398
Printing materials.....		4,494
Sewing machines.....		16,827
Tobacco, leaf, lbs .....	5,570	1,048
Wood:		
Boards, M.....	1,581	38,876
Cooperage.....		816,724

DOMESTIC EXPORTS—*Continued.*

ARTICLES AND COUNTRIES.	Quantity.	Value.
<i>Cuba—Continued.</i>		
Wood, manufactures.....		1,335
Wool manufactures.....		5,080
Miscellaneous.....		7,222
Total.....		1,375,485
<i>Porto Rico:—</i>		
Bread and biscuit, lbs.....	18,850	961
Indian corn meal, bbls.....	350	1,435
Flour, bbls.....	7,475	53,719
Candles, lbs.....	55,764	6,138
Iron manufactures.....		832
Petroleum, refined, galls.....	18,950	3,755
Paper.....		\$1,585
Provisions.....		22,240
Soap, lbs.....	14,000	700
Wood:		
Boards, M.....	412	9,143
Cooperage.....		36,687
Miscellaneous.....		1,094
Total.....		138,389
<i>Sweden and Norway:—</i>		
Petroleum, refined, galls.....	149,555	19,326
Naphtha, galls.....	86,910	7,200
Total.....		26,526
<i>United States of Colombia:—</i>		
Gold and silver coin.....		4,000
Coal, tons.....	18,694	91,095
Provisions.....		680
Miscellaneous.....		155
Total.....		95,930
<i>Venezuela:—</i>		
Rye flour, bbls.....	407	2,147
Wheat, bushels.....	19,898	34,165
Wheat flour, bbls.....	27,443	187,452
Bronze manufactures.....		30,000
Candles, lbs.....	29,999	3,910
Coal, tons.....	485	2,386
Carriages.....		917
Cordage, lbs.....	86,850	10,525
Drugs and chemicals.....		26,690
Marble manufactures.....		9,170
Iron manufactures.....		51,712
Petroleum, refined, galls.....	10,249	1,854
Rosin, bbls.....	527	2,194
Cartridges.....		7,039
Provisions.....		60,433
Paper.....		1,000
Tallow, lbs.....	635,814	62,114
Tobacco, leaf, lbs.....	6,629	3,176
Wood—Boards, M.....	115	4,690
Manufactures.....		1,630
Miscellaneous.....		6,360
Total.....		509,564
Grand total.....		20,878,911

## DOMESTIC EXPORTS.

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## SUMMARY STATEMENT OF COMMODITIES,

The growth, produce and manufacture of the United States, exported to foreign countries from the port of Philadelphia during the year 1874:

ARTICLES.	Quantity.	Value.
Agricultural implements .....		\$50,129
Animals.....		1,170
Bark for tanning.....		24,428
Beer and ale, gallons.....	1,917	860
Bones and bone dust, cwts.....	1,900	2,938
Bone-black, lbs.....	578,582	24,762
Books .....		5,116
Bread and breadstuffs:		
Bread and biscuits, lbs.....	815,140	34,644
Indian corn, bushels.....	2,203,588	1,910,943
Indian corn meal, bbls.....	27,403	117,731
Oats, bushels.....	30,671	21,220
Rye, bushels.....	104,616	99,801
Rye flour, bbls.....		84,927
Wheat, bushels.....	3,289,532	4,740,796
Wheat flour, bbls .....	185,698	1,247,018
Other breadstuffs.....		991
Bronze manufactures.....		30,000
Brooms.....		1,792
Candles, lbs.....	104,603	12,874
Carriages .....		3,327
Coal, tons.....	61,043	302,684
Copper ore, cwts.....	400	1,500
Cordage .....	90,769	10,879
Cotton bales, lbs .....	14,298,118	2,107,981
Cotton manufactures.....		31,739
Dentists' materials .....		32,155
Drugs and chemicals.....		105,897
Fruits .....		16,326
Furs.....		4,480
Gas fixtures .....		6,369
Glassware .....		2,385
Gold and silver coin.....		85,708
Grease, lbs.....	113,481	9,199
Hair, unmanufactured.....		32,566
Hay, tons.....	184	4,336
Hides .....		656,647
Hops, lbs .....	5,582	1,804
Iron:		
Bar, cwt.....	641	2,578
Castings .....		1,274
Car wheels.....	1,999	60,014
Engines .....		187,088
Machinery.....		811,479
Nails, lbs.....	355,100	14,934
Other manufactures .....		179,278
Leather and manufactures.....		315,568
Marble and stone.....		1,637
Matches .....		1,662
Naval stores—Rosin, bbls.....	6,011	20,551
Oilcake, lbs.....	18,237,882	374,353
Oils:		
Petroleum, (crude,) gallons.....	1,614,116	145,939
Petroleum, (refined,) gallons.....	70,810,711	9,366,517
Naphtha and benzine, gallons.....	1,729,862	135,607
Residuum, bbls.....	6,952	19,213
Other oils.....		4,010
Cartridges.....		7,039
Paintings.....		1,245
Paper.....		6,384
Perfumery .....		7,424
Printing material.....		3,865



DOMESTIC EXPORTS—*Continued.*

ARTICLES.	Quantity.	Value.
Provisions:		
Bacon and hams, lbs.....	8,370,405	779,130
Beef, lbs.....	13,738,806	1,293,888
Butter, lbs.....	454,616	49,464
Cheese, lbs.....	1,990,159	203,336
Fish.....		14,679
Lard, lbs.....	8,246,342	948,337
Meats.....		1,864
Pork, lbs.....	928,247	81,308
Vegetables.....		24,611
Rags, lbs.....	97,235	6,649
Rice, lbs.....	66,918	2,115
Seeds.....		7,911
Sewing machines.....		18,986
Soap, lbs.....	90,151	6,067
Spirits of turpentine, gallons.....	14,266	8,663
Starch, lbs.....	64,550	\$3,935
Sweepings.....		5,776
Molasses, gallons.....	526,601	126,257
Tallow, lbs.....	9,126,657	738,704
Tobacco:		
Leaf, lbs.....	9,878,159	997,715
Segars, M.....	74	5,565
Snuff, lbs.....	3,600	1,476
Other manufactures.....		21,171
Wax, lbs.....	17,467	5,700
Wearing apparel.....		2,800
Wood:		
Boards, M.....	3,039	86,148
Cooperage.....		886,897
Other manufactures.....		39,326
Miscellaneous.....		25,651
Total.....		29,878,911

## DOMESTIC EXPORTS.

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## RECAPITULATION.

Statement of the value of exports to the following foreign countries :

COUNTRIES.	In Ameri- can vessels.	In foreign vessels.	Total.
Austria .....	\$60,837	\$79,255	\$140,092
Belgium .....	614,144	5,030,623	5,648,867
Brazil .....	18,645	.....	18,645
Denmark .....	.....	229,672	229,672
Danish West Indies .....	1,230	.....	1,230
France .....	106,072	294,309	400,381
French West Indies .....	27,255	.....	27,255
French possessions in Africa .....	13,200	.....	13,200
Germany .....	56,144	3,221,657	3,377,801
England .....	6,431,208	3,700,126	10,131,334
Ireland .....	72,522	3,672,527	3,745,049
Gibraltar .....	76,136	185,698	261,834
Nova Scotia .....	16,924	125,500	142,424
British West Indies .....	696,699	249,909	946,608
Italy .....	110,537	303,634	414,171
Mexico .....	17,045	.....	17,045
Netherlands .....	59,016	837,914	896,930
Dutch West Indies .....	.....	35,256	35,256
Peru .....	559,147	212,000	771,147
Portugal .....	11,461	135,273	146,734
Russia .....	200,909	84,133	285,042
Spain .....	11,863	70,537	82,400
Cuba .....	1,281,011	94,474	1,375,485
Porto Rico .....	50,855	87,434	138,289
Sweden .....	.....	26,526	26,526
United States of Colombia .....	86,415	9,515	95,930
Venezuela .....	56,377	453,187	509,564
Total .....	10,635,652	19,243,259	29,878,911
Total exports during 1873 .....	\$7,382,905	\$22,250,281	\$29,633,186

## COMMERCE OF PHILADELPHIA.

## STATEMENT OF THE EXPORTS OF BREADSTUFFS,

(including bread, biscuits, Indian corn, Indian corn meal, oats, rye, rye flour, wheat, wheat flour, and other grains,) and provisions, (including bacon, hams, beef, butter, cheese, fish, lard, meats, oysters, pork and vegetables) from the port of Philadelphia, to foreign countries, during the year 1874 :

COUNTRIES.	Breadstuffs Provisions.	
Belgium.....	\$1,028,596	\$343,850
Brazil.....	13,070	
France.....	60,303	
French West Indies.....	17,761	3,629
England.....	2,624,807	2,788,235
Ireland.....	3,321,798	
Nova Scotia.....	25,830	1,065
British West Indies.....	657,847	105,130
Italy.....	12,084	66
Dutch West Indies.....	24,444	2,993
Portugal.....	60,099	
Cuba.....	33,465	44,398
Porto Rico.....	55,388	22,240
United States of Colombia.....	115	680
Venezuela.....	223,764	60,433
Total.....	8,159,371	3,372,719
Exports during the year 1873.....	\$5,556,846	\$1,137,832
Exports during the year 1872.....	4,100,979	282,954
Exports during the year 1871.....	4,148,595	341,382

## EXPORTS OF PETROLEUM

from the port of Philadelphia to foreign countries during the year 1874 :

COUNTRIES.	REFINED.		CRUDE.		NAPHTHA AND BENZINE.	
	Gallons.	Dollars.	Gallons.	Dollars	Gallons.	Dollars
Austria.....	1,145,852	140,092				
Belgium.....	22,188,437	2,905,098			133,561	8,685
Denmark.....	1,709,428	229,672				
France.....	493,193	59,196	1,608,456	145,439	766,268	57,042
French West Indies.....	9,820	2,070				
French possess. in Africa,	110,000	13,200				
Germany.....	25,536,905	3,364,941			157,635	12,800
England.....	3,523,310	473,325			135,926	11,214
Ireland.....	2,141,177	289,780			430,681	36,872
Gibraltar.....	1,954,531	259,260				
Nova Scotia.....	84	15				
British West Indies.....	111,944	19,457				
Italy.....	2,895,481	392,285				
Netherlands.....	6,743,698	896,430	5,660	500		
Portugal.....	553,430	78,971				
Russia.....	884,983	135,954				
Spain.....	623,679	80,606			18,881	1,794
Cuba.....	5,946	1,222				
Porto Rico.....	18,950	3,755				
Sweden.....	149,555	19,326			86,910	7,200
Venezuela.....	10,249	1,854				
Total.....	70,810,714	9,366,517	1,614,116	145,939	1,729,862	135,607



## TOTAL EXPORTS OF PETROLEUM, BENZINE AND NAPHTHA.

	1874.		1873.		1872.		1871.	
	Gallons.	Dollars.	Gallons.	Dollars.	Gallons.	Dollars.	Gallons.	Dollars.
Refined .....	70,810,711	9,366,517	80,166,187	14,967,786	47,981,845	11,209,583	51,352,996	12,512,109
Crude .....	1,614,116	145,939	4,837,394	566,443	7,216,058	1,192,000	3,833,979	673,906
Naphtha and benzine	1,729,862	135,607	1,839,432	199,562	1,158,165	163,106	714,615	71,830
Total .....	74,154,689	9,648,063	86,843,013	15,733,791	56,356,068	12,569,779	55,901,590	13,257,895

AVERAGE PRICE.	Per gallon. 1874.	Per gallon. 1873.	Per gallon. 1872.	Per gallon. 1871.
Refined .....	13 225-1000c.	18 671-1000c.	23 560-1000c.	24 365-1000c.
Crude .....	9 042-1000c.	11 710-1000c.	16 526-1000c.	17 577-1000c.
Naphtha and benzine .....	7 840-1000c.	10 849-1000c.	4 511-1000c.	10 051-1000c.

## CLEARANCES OF VESSELS.

Their nationality, value of cargo and tonnage :

NATIONALITY.	Number.	Tonnage.	Value of cargo.
American .....	443	267,029	\$10,635,652
Austrian .....	12	5,724	288,772
Belgian .....	13	29,603	2,217,422
British .....	303	168,494	8,932,755
Danish .....	5	1,903	84,989
Dutch .....	6	1,890	105,916
French .....	1	493	39,000
German .....	111	72,353	2,871,283
Italian .....	52	24,903	1,413,813
Portuguese .....	8	2,123	105,583
Russian .....	17	9,751	473,989
Spanish .....	9	5,849	231,668
Swedish .....	125	57,820	2,481,129
Total .....	1,105	647,965	29,878,911

## OUR FOREIGN COMMERCE FOR 1874.

*The values of commodities imported into the Customs District of Philadelphia.*

We are indebted to Seth I. Comly, Esq., Collector of the Port, for the following statement of the values of commodities imported into the customs district of Philadelphia for the year ending December 31, 1874 :

## DIRECT TRADE.

Value of goods subject to duty .....	\$20,862,112
Value of goods free of duty .....	3,570,368

## INDIRECT TRADE.

Via New York, subject to duty .....	526,765
Via New York, free of duty .....	40,539
Received at other ports and warehoused at Philadelphia .....	306,741

Total value for 1874 .....	\$25,306,525
Total value for 1873 .....	29,596,192
Total value for 1872 .....	26,824,350
Total value for 1871 .....	20,820,374
Total value for 1870 .....	<u>14,952,371</u>
Decrease of 1874, as compared with 1873 .....	4,298,667
Decrease of 1874, as compared with 1872 .....	1,517,825
Increase of 1874 over 1871 .....	4,486,151
Increase of 1874 over 1870 .....	<u>10,354,154</u>

Of the total value per direct trade \$24,432,480, for 1874; \$15,120,548 were imported in American vessels, and \$9,311,932 in foreign vessels, as against \$11,396,694 in American vessels, and \$15,424,202 in foreign vessels for 1873, showing an increase during the past year over 1873, in commodities imported in American bottoms, of \$3,723,854, and a decrease in those imported in foreign bottoms of \$6,112,270.

The bulk of the business is largely in favor of the *direct* trade, the decrease of the indirect trade via New York, as compared with 1873, being of itself \$1,798,725. This result shows that our merchants are patronizing our own line of steamers more than heretofore and not relying so much upon New York.

The value of goods withdrawn from warehouse amounts to	\$9,158,980 00
Withdrawn during 1873 .....	7,151,746 00
Withdrawn during 1872 .....	<u>8,707,696 00</u>

#### Statement of duties received during the year:

On imports in American vessels .....	\$2,699,562 72
On imports in foreign vessels .....	1,475,217 92
On imports via New York .....	164,016 87

#### Merchandise withdrawn from warehouse:

Imported in American vessels .....	2,320,119 25
Imported in foreign vessels .....	1,461,771 87
Re-warehouse withdrawals .....	137,675 26
Imported via New York .....	<u>133,795 53</u>
Total duties for 1874 .....	8,392,159 42
Total duties for 1873 .....	<u>7,697,237 76</u>

Increase in the amount of revenue over 1873 .....	<u>694,921 66</u>
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It may be stated here that ours is the only port in the Union exhibiting an increase in the amount of duties received the past year. The revenues collected at the other ports show a decided reduction.

The number of entries received and passed is as follows :

Cash.....	7,001
Free.....	1,111
Appraisement.....	481
Warehouse.....	1,284
Re-warehouse.....	174
Withdrawals from warehouse.....	6,090
Withdrawals from re-warehouse.....	613
Entries of additional duties.....	1,150
Entries of refunded duties.....	1,442
<hr/>	
Total.....	19,346
Total number of entries for 1873.....	18,296
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Increase in the number of entries..... 1,050

The total values of the exports for the past year are :

In American vessels.....	\$10,635,652
In foreign vessels.....	19,243,259
<hr/>	
Total.....	29,878,911
Total values of exports for 1873.....	29,633,186
<hr/>	
Increase in exports.....	<u>245,723</u>

The total number of passengers arrived is.....	10,633
Arrived during 1873.....	4,257
<hr/>	
Increase.....	<u>6,376</u>

As to the character of the goods imported, the statistics show that all descriptions of linens, silks, cottons, leather, woolens, and, in fact, all sorts of fancy goods have come to us in greater quantities than during bygone years, whilst the importations of pig iron, old wrought iron, old cast iron, and all manufactures of iron and steel, and all manufactures of steel and other metals have been very considerably diminished. On the whole, the year 1874 compared favorably with any of its forerunners. True, the values of goods imported, which is after all the only true gauge by which to estimate the amount of business transacted, are not so large as was hoped, but our revenue has been increased, and to such an extent as to command the attention of the general government. Let us hope that the year 1875, in view of the approaching Centennial, may outstrip all its predecessors in the extent of its commerce, and inaugurate an era of prosperity to continue for years to come.



## FOREIGN IMPORTS.

Statement of import entries of commodities brought from foreign countries in American and foreign vessels, into the customs district of Philadelphia, during the year 1874:

ARTICLES AND COUNTRIES.	Quantity.	Value.
<i>Belgium</i> :—Free of duty:		
Articles of the United States.....		\$15,729
Bleaching powder, lbs.....	44,814	977
Chemicals.....		11,129
Coffee, lbs.....	40,980	9,261
Hides.....		5,360
Household effects.....		1,089
Ivory.....		2,456
Madder, lbs.....	22,924	1,550
Bags, lbs.....	46,897	1,993
Silk, raw, lbs.....	678	5,080
Miscellaneous.....		9,150
Total free of duty.....		63,074
Subject to duty:		
Books.....		7,395
Brass manufactures.....		2,091
Barley, bushels.....	64,169	62,690
Chemicals.....		7,886
Clay, tons.....	91	1,048
Clay pipes.....		3,922
Cotton, manufactures.....		29,783
Earthenware.....		2,310
Fancy goods.....		12,291
Flax, and manufactures.....		3,854
Furs.....		50,818
Glass, manufactures.....		133,774
Hops, lbs.....	2,776	786
Iron:		
Pig, lbs.....	8,448,427	202,001
Muskets.....		14,764
Steel.....		12,148
Cutlery.....		3,615
Other manufactures.....		24,607
Ore.....		2,103
Lead, lbs.....	2,861,126	140,523
Leather and manufactures.....		43,779
Metals.....		1,871
Musical instruments.....		1,750
Oils and paints.....		3,470
Paintings.....		32,697
Paper, manufactures.....		7,902
Potato, farina, lbs.....	679,128	24,086
Provisions.....		18,833
Seeds.....		3,373
Silk, manufactures.....		31,468
Spices, lbs.....	24,146	15,856
Starch syrup.....		2,177
Tobacco, manufactures.....		1,185
Spirits, gallons.....	24,048	26,280
Wine, gallons.....	115,160	88,060
Wood, manufactures.....		7,462
Wool, unmanufactured, lbs.....	30,896	3,222
Wool, manufactures.....		45,789
Zinc in sheets and blocks, lbs.....	110,196	8,283
Miscellaneous.....		6,698
Total.....		1,155,000

## FOREIGN IMPORTS.

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FOREIGN IMPORTS—*Continued.*

ARTICLES AND COUNTRIES.	Quantity.	Value.
<i>Bolivia</i> :—Free of duty:		
Soda, nitrate, lbs.....	1, 595, 460	\$38, 291
<i>Brazil</i> :—Free of duty:		
Coffee, lbs.....	485, 700	99, 905
Subject to duty:		
Sugar, lbs.....	4, 789, 743	192, 346
Total .....		292, 251
<i>Danish West Indies</i> :—Free of duty:		
Pewter, lbs.....	678	125
Subject to duty:		
Copper, lbs.....	2, 622	408
Iron, old, tons.....	143	1, 842
Lead, lbs.....	30, 632	1, 113
Molasses, gallons.....	25, 726	5, 802
Miscellaneous .....		13
Total .....		9, 303
<i>Greenland</i> :—Free of duty:		
Kryolite.....		65, 575
<i>France</i> :—Free of duty:		
Chalk.....		2, 733
Household effects.....		2, 600
Platina.....		4, 246
Miscellaneous.....		268
Total free of duty.....		9, 847
Subject to duty:		
Glass, manufactures.....		642
Iron, old, tons.....	493	14, 460
Oil, olive, gallons.....	2, 536	6, 115
Spirits, gallons.....	77, 744	33, 566
Wine, gallons.....	180, 792	71, 223
Miscellaneous .....		440
Total.....		136, 293
<i>French West Indies</i> :—Subject to duty:		
Sugar, hhds.....	630, 101	22, 733
Spirits, gallons.....	54	93
Total.....		22, 826
<i>French possessions in Africa</i> :—Free of duty:		
Articles of the United States.....		232
Subject to duty:		
Iron ore.....		30, 576
Total.....		30, 808
<i>Germany</i> :—Free of duty:		
Articles of the United States.....		24, 189
Chemicals.....		25, 134
Dyewood, lbs.....	10, 189	11, 718
Plumbago.....		989
Paper material.....		101, 822
Ratans.....		5, 294
Miscellaneous .....		570
Total free of duty.....		169, 716
Subject to duty:		
Books.....		920
Cement.....		1, 696
Chemicals.....		21, 668
Clay and clay pipes.....		14, 557
Cotton manufactures.....		2, 132
Earthen and stoneware.....		9, 075

FOREIGN IMPORTS—*Continued.*

ARTICLES AND COUNTRIES.	Quantity.	Value.
<i>Germany</i> :—Subject to duty:		
Fancy goods.....		\$35,955
Glass manufactures.....		11,260
Grape sugar, hhds.....	60,900	2,436
Iron:		
Old, tons.....	170	11,664
Bar, lbs.....	1,519,493	62,610
Manufactures.....		84,899
Lead, lbs.....	3,050,353	149,266
Marble.....		7,048
Musical instruments.....		14,507
Paper, manufactures.....		2,485
Wine, gallons.....	9,386	3,278
Wood, manufactures.....		5,457
Wool, manufactures.....		35,881
Miscellaneous.....		2,788
Total.....		694,598
<i>England</i> :—Free of duty:		
Anatomical preparations.....		1,341
Argols, lbs.....	756,737	93,782
Articles of the United States.....		24,786
Barks:		
Medicinal.....	679,932	260,332
Cork.....		2,598
Books.....		18,630
Chalk.....		12,779
Chemicals.....		299,491
Chloride of lime, lbs.....	6,636,952	150,406
Cochineal, lbs.....	127,077	71,245
Coffee, lbs.....	67,304	13,428
Dyewood, cwts.....	493	479
Fruits.....		32,970
Gums, lbs.....	351,765	42,035
Hair, unmanufactured.....		3,556
Hides.....		125,811
Indigo, lbs.....	36,461	28,360
Ivory.....		1,208
Oils.....		7,266
Paintings.....		3,388
Paper material, lbs.....	480,706	21,699
Platina.....		4,348
Ratans.....		1,859
Rottenstone.....		2,030
Seeds.....		2,710
Shells.....		23,866
Silk, raw, lbs.....	1,264	9,309
Soda, nitrate of, lbs.....	310,300	8,320
Tea, lbs.....	1,132	679
Tin, in bars, cwts.....	685	19,948
Vanilla beans, lbs.....	209	4,187
Wood, unmanufactured.....		4,263
Miscellaneous.....		9,352
Total free of duty.....		1,306,516
Subject to duty:		
Beer and ale, gallons.....	25,095	25,091
Blacking.....		3,286
Books.....		84,644
Brass manufactures.....		12,564
Barley, bushels.....	36,251	47,600
Bread stuffs, other.....		14,904
Buttons.....		15,706
Cement.....		7,960
Chalk.....		1,089
Chemicals.....		354,312



## FOREIGN IMPORTS.

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FOREIGN IMPORTS—*Continued.*

ARTICLES AND COUNTRIES.	Quantity.	Value.
<i>England:—Subject to duty:</i>		
Clay and clay pipes .....		\$23,625
Coal, bituminous, tons.....	2,066	7,019
Copper and manufactures.....		17,869
Cotton, manufactures.....		505,491
Earthen and stoneware.....		506,816
Fancy goods.....		42,687
Flax, manufactures.....		780,880
Fruits.....		189,408
Furs.....		18,279
Glass and glassware.....		56,331
Grape sugar, lbs.....	172,500	6,900
Gypsum, calcined.....		1,902
Hair and manufactures.....		45,607
Hemp, manufactures.....		622
Hops.....	3,477	2,422
India rubber, manufactures.....		10,770
Ink.....		9,807
Iron—Pig, lbs.....	2,655,076	57,422
Bar, lbs.....	46,866	2,243
Old, tons.....	221	11,978
Hardware.....		12,055
Anchor and chains, lbs.....	519,049	30,752
Machinery.....		56,876
Musket and sporting guns.....		33,254
Steel ingots.....		120,812
Cutlery.....		35,404
Files.....		34,436
Other manufactures.....		304,212
Jewelry.....		7,655
Jute, manufactures.....		39,913
Lead, lbs.....	1,137,966	55,385
Leather and manufactures.....		263,850
Marble.....		26,314
Metals.....		26,072
Musical instruments.....		10,096
Oil cloth.....		3,502
Oils.....		10,518
Opium, lbs.....	97,074	479,824
Paintings.....		41,153
Paints.....		23,108
Paper, manufactures.....		68,224
Perfumery.....		10,518
Precious stones.....		78,958
Provisions.....		22,028
Salt, lbs.....	72,771,439	227,263
Saltpetre, lbs.....	10,963	789
Seeds.....		17,824
Silk, manufactures.....		440,784
Soap, lbs.....	19,946	3,373
Soda—Bicarbonate, lbs.....	302,400	9,874
Carbonate, lbs.....	40,238,159	840,542
Caustic, lbs.....	5,999,372	249,860
Spices, lbs.....	175,890	52,584
Sponges.....		3,644
Tin, in plates, cwt.....	191,215	1,728,269
Tin, manufactured.....		3,943
Watches.....		58,321
Spirits, gallons.....	48,341	65,433
Wine, gallons.....	17,080	21,078
Wood, manufactures.....		20,381
Wool, unmanufactured, lbs.....	488,345	121,826
Wool, manufactures.....		2,331,466
Miscellaneous.....		1,473
Total.....		12,563,076

FOREIGN IMPORTS—*Continued.*

ARTICLES AND COUNTRIES.	Quantity.	Value.
<i>Ireland</i> :—Subject to duty:		
Iron, old, tons.....	290	\$8,679
<i>Nova Scotia</i> :—Free of duty:		
Fish.....		20,794
Gypsum, tons.....	10,416	12,438
Wood.....		10,036
Total free of duty.....		43,268
Subject to duty:		
Barley, bushels.....	4,800	4,653
Marble.....		4,593
Plaster, calcined.....		19,691
Potatoes, bushels.....	30,643	12,545
Lumber.....		25,956
Miscellaneous.....		37
Total.....		110,743
<i>British West Indies</i> :—Free of duty.		
Dyewood, cwt.....	87,428	60,845
Fruits.....		9,482
Wood, manufactured.....		814
Miscellaneous.....		882
Total free of duty.....		72,023
Subject to duty:		
Copper, lbs.....	16,423	2,399
Fruits.....		2,362
Iron, (old,) tons.....	147	1,918
Provisions.....		8,154
Salt, lbs.....	16,109,854	14,262
Sugar, lbs.....	1,925,477	82,254
Molasses, gallons.....	154,836	33,104
Miscellaneous.....		426
Total.....		216,893
<i>British Guiana</i> :—Subject to duty:		
Sugar, lbs.....	535,047	28,619
<i>Greece</i> :—Subject to duty:		
Fruits.....		34,592
<i>Hayti</i> :—Free of duty:		
Dyewood, cwt.....	18,285	13,080
<i>Italy</i> :—Free of duty:		
Chemicals.....		3,378
Fruits.....		329,904
Household effects.....		1,327
Oil.....		3,787
Paintings.....		8,958
Paper material, lbs.....	4,684,013	180,635
Sulphur, tons.....	8,576	262,492
Miscellaneous.....		2,384
Total free of duty.....		792,865
Subject to duty:		
Chemicals.....		81,614
Fruits.....		12,075
Hemp raw, tons.....	46	11,653
Marble.....		83,813
Metals.....		1,393
Oil, olive, gallons.....	3,313	3,747
Paintings.....		35,542
Paints.....		2,215
Salt, lbs.....	5,017,932	3,662

## FOREIGN IMPORTS.

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FOREIGN IMPORTS—*Continued.*

ARTICLES AND COUNTRIES.	Quantity.	Value.
<i>Italy</i> :—Subject to duty:		
Soap, lbs. ....	118,392	\$9,995
Wine, gallons .....	11,751	4,745
Wood, manufactures .....		1,049
Miscellaneous .....		1,568
Total .....		1,045,936
<i>Netherlands</i> :—Free of duty:		
Articles of the United States .....		8,787
Chemicals .....		1,527
Madder, lbs. ....	19,698	1,328
Total free of duty .....		11,642
Subject to duty:		
Clay and clay pipes .....		2,033
Iron, pig, lbs. ....	1,115,704	30,228
Spirits, gallons .....	30,206	12,075
Wine, gallons .....	13,913	4,498
Zinc in blocks, lbs. ....	91,560	7,072
Miscellaneous .....		2,867
Total .....		70,425
<i>Dutch West Indies</i> :—Free of duty:		
Chemicals .....		906
Guano, tons .....	70	1,705
Miscellaneous .....		658
Total free of duty .....		3,249
Subject to duty:		
Salt, lbs. ....	1,534,545	1,661
Miscellaneous .....		716
Total .....		5,626
<i>Dutch East Indies</i> :—Subject to duty:		
Sugar, lbs .....	1,682,039	70,477
<i>Peru</i> :—Free of duty:		
Soda, nitrate, lbs. ....	1,942,625	46,623
<i>Portugal</i> :—Free of duty:		
Corkwood .....		52,315
Miscellaneous .....		142
Total free of duty .....		52,457
Subject to duty:		
Iron, old, tons .....	59	2,401
Marble .....		912
Salt, lbs. ....	2,280,938	2,273
Wine, gallons .....	1,224	1,040
Miscellaneous .....		336
Total .....		59,419
<i>Spain</i> :—Subject to duty:		
Fruits .....		176,230
Oil, olive, gallons .....	9,867	6,946
Total .....		183,176
<i>Cuba</i> :—Free of duty:		
Animals .....		1,200
Fruits .....		41,666
Paper materials, lbs. ....	183,663	4,936
Miscellaneous .....		3,308
Total free of duty .....		51,110
Subject to duty:		
Brass .....		9,678



## COMMERCE OF PHILADELPHIA.

FOREIGN IMPORTS—*Continued.*

ARTICLES AND COUNTRIES.	Quantity.	Value.
<i>Cuba</i> :—Subject to duty :		
Chemicals.....		\$1,077
Copper, lbs.....	74,565	12,637
Fruits.....		19,874
Iron, old, tons.....	665	13,649
Metals.....		1,192
Sugar, lbs.....	75,202,396	3,440,193
Molasses, gallons.....	11,095,438	2,614,315
Melado, lbs.....	166,129	5,631
Tabacco :		
Leaf, lbs.....	24,857	11,531
Segars, lbs.....	26,109	103,649
Miscellaneous.....		605
Total.....		6,285,141
<i>Porto Rico</i> :—Subject to duty :		
Fruits.....		1,389
Sugar, lbs.....	8,923,475	385,256
Molasses, gallons.....	70,238	18,627
Total.....		405,272
<i>Sweden</i> :—Free of duty :		
Specimens—mineralogical.....		277
Subject to duty :		
Iron :		
Bar, lbs.....	907,497	18,627
Old, tons.....	445	27,509
Manufactures.....		96,454
Miscellaneous.....		412
Total.....		155,615
<i>United States of Colombia</i> :—Free of duty :		
Fruits.....		3,069
<i>Venezuela</i> :—Free of duty :		
Cocoa, lbs.....	82,990	5,921
Coffee, lbs.....	2,785,445	551,503
Cotton, lbs.....	204,068	27,651
Fruits.....		1,222
Hides.....		75,059
Gold coin.....		63,650
Indigo, lbs.....	3,332	2,040
Miscellaneous.....		495
Total free of duty.....		727,441
Subject to duty :		
Iron, old, tons.....	53	912
Molasses, gallons.....	3,368	1,139
Miscellaneous.....		1,382
Total.....		730,874
Grand total.....		24,437,480

## FOREIGN IMPORTS.

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## SUMMARY STATEMENTS OF ARTICLES,

Imported direct from foreign countries into the port of Philadelphia, during the year 1874:

ARTICLES.	Quantity.	Value.
Commodities free of duty:		
Animals, living .....		\$1,245
Argols, lbs. ....	756,773	93,782
Articles of the United States .....		74,891
Bark:		
Medicinal, lbs. ....	699,932	260,342
Cork. ....		54,993
Books .....		18,601
Chalk .....		15,512
Chemicals and drugs .....		302,627
Chloride of lime, lbs. ....	6,661,787	151,383
Cocoa, crude, lbs. ....	82,990	5,921
Cochineal, lbs. ....	126,476	71,247
Coffee, lbs. ....	3,379,784	684,133
Cotton, raw, lbs. ....	204,608	27,747
Dyewoods, cwt. ....	116,875	86,122
Fish, fresh, lbs. ....	619,205	20,794
Fruits .....		419,300
Gold and silver coin .....		63,754
Guano, tons .....	70	1,705
Gums, lbs. ....	354,947	41,678
Gut strings .....		1,307
Gypsum, tons .....	10,416	12,438
Hair, unmanufactured. ....		3,974
Hides .....		208,496
Household effects .....		5,617
Indigo, lbs. ....	39,793	30,400
Ivory .....		3,714
Kryolite .....		66,576
Madder, lbs. ....	42,622	2,878
Oils .....		11,053
Paintings .....		12,646
Platinum .....		8,594
Plumbago .....		1,037
Paper material .....		313,045
Ratans .....		7,153
Rottenstone .....		2,506
Seeds .....		4,013
Silk, raw, lbs. ....	2,302	16,953
Shells .....		23,861
Soap stock .....		1,055
Soda, nitrate of, lbs. ....	3,848,385	93,234
Sulphur, tons .....	8,576	262,692
Tin in bars, lbs. ....	705	30,496
Vanilla beans .....		4,187
Wood, unmanufactured. ....		15,465
Miscellaneous .....		1,245
Total free of duty .....		3,570 368
Commodities subject to duty:		
Blacking .....		3,286
Beer and ale, gallons. ....	25,747	24,415
Books .....		93,789
Brass manufactures .....		22,752
Breadstuffs .....		130,022
Buttons .....		15,754
Cement .....		10,144
Carriages .....		1,732
Chalk .....		876
Chemicals and drugs .....		466,914
Clay, tons .....	3,430	34,713
Clay pipes .....		9,736

FOREIGN IMPORTS—*Continued.*

ARTICLES.	Quantity.	Value.
Commodities subject to duty:		
Coal, bituminous, tons .....	2,066	\$7,019
Copper and manufactures .....		33,897
Cotton manufactures .....		900,206
Earthen and stoneware .....		514,001
Fancy goods .....		90,970
Fish .....		2,422
Flax and manufactures .....		787,867
Fruits .....		439,375
Furs .....		69,093
Glass and glassware .....		200,561
Grape sugar, lbs .....	149,025	5,961
Hair, human and other .....		46,044
Hemp and manufactures .....		12,275
Hops, lbs .....	6,253	3,238
India rubber manufactures .....		10,384
Ink .....		9,421
Iron:		
Ore .....		32,684
Pig, lbs .....	12,119,267	289,651
Bar, lbs .....	2,752,356	102,686
Old, tons .....	2,686	95,046
Hardware .....		12,055
Anchors and chains .....	522,808	31,062
Machinery .....		57,372
Muskets and rifles .....		48,020
Steel ingots .....		133,198
Cutlery .....		39,736
Files .....		34,446
Saws and files .....		2,981
Other manufactures .....		496,007
Jewelry .....		8,095
Jute, manufactures .....		39,913
Lead, lbs .....	7,294,267	347,035
Leather and manufactures .....		328,046
Marble and stone .....		137,958
Metals .....		30,637
Musical instruments .....		26,930
Oilcloth .....		3,502
Oils:		
Olive, gallons .....	16,602	18,011
Other .....		6,992
Opium, lbs .....	97,074	479,824
Paintings .....		94,288
Paints .....		28,110
Paper manufactures .....		79,168
Perfumery .....		11,267
Plaster, calcined .....		20,593
Potatoes, bushels .....	32,282	15,481
Potato farina, lbs .....	679,128	25,263
Precious stones .....		78,958
Provisions .....		30,317
Salt, lbs .....	91,709,046	249,139
Saltpetre, lbs .....	10,963	789
Seeds .....		21,125
Silk manufactures .....		472,398
Soap, lbs .....	132,062	12,991
Commodities subject to duty:		
Soda:		
Bicarbonate, lbs .....	302,400	9,874
Carbonate, lbs .....	40,238,159	840,542
Caustic, lbs .....	5,999,372	249,860
Spices, lbs .....	200,040	68,420
Sponges .....		3,644
Starch, syrup .....		2,197



# FOREIGN IMPORTS.

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## FOREIGN IMPORTS—Continued.

ARTICLES	Quantity.	Value.
Commodities subject to duty:		
Sugar, brown, lbs.....	93,712,481	\$4,223,177
Molasses, gallons.....	11,359,606	2,672,943
Melado, lbs.....	165,129	5,631
Tin:		
In plates, lbs.....	191,260	1,728,661
Manufactures.....		3,943
Tobacco:		
Leaf, lbs.....	24,657	11,531
Segars, lbs.....	26,114	103,662
Other manufactures.....		1,190
Vegetables.....		11,248
Watches.....		59,135
Spirits, gallons.....	179,604	138,069
Wine, gallons.....	349,303	194,115
Wood manufactures.....		60,366
Wool:		
Unmanufactured, lbs.....	519,241	125,048
Manufactures.....		2,377,373
Zinc in blocks, lbs.....	198,946	15,141
Miscellaneous.....		19,251
Total.....		24,437,480

Statement of foreign merchandise imported into the port of New York and transported thence without appraisement to the port of Philadelphia, under the provisions of the act of July 14, 1870, during the year 1874:

### COMMODITIES FREE OF DUTY.

Articles.	Value.
Philosophical instruments.....	\$1,072
Platinum.....	27,487
Miscellaneous.....	1,980
Total free.....	30,539

### COMMODITIES SUBJECT TO DUTY.

Books.....	1,399
Brass manufactures.....	2,766
Barley.....	15,323
Buttons.....	20,768
Chemicals.....	9,341
Cotton manufactures.....	88,890
Earthen and stoneware.....	792
Fancy goods.....	17,236
Flax manufactures.....	9,145
Fruits.....	2,483
Furs.....	5,988
Glassware.....	5,247
India-rubber manufactures.....	2,205
Iron manufactures.....	9,040
Jewelry.....	2,450
Leather and manufactures.....	36,334
Metals.....	3,363
Musical instruments.....	2,907
Oils.....	3,054
Paintings.....	9,220
Paper manufactures.....	6,869
Silk manufactures.....	110,601
Segars.....	4,639
Watches.....	16,530
Wood manufactures.....	3,436
Wool, unmanufactured.....	20,937
Wool manufactures.....	122,365
Miscellaneous.....	3,321
Total.....	567,304

## COMMERCE OF PHILADELPHIA.

## RECAPITULATION.

Statement of imports from the following foreign countries into the port of Philadelphia during the year 1874 :

COUNTRIES.	In American vessels.	In foreign vessels.	Totals.
Belgium .....	\$7, 426	\$1, 147, 774	\$1, 155, 200
Bolivia .....	38, 291		38, 291
Brazil .....		292, 251	292, 251
Danish West Indies .....	9, 303		9, 303
Greenland .....		65, 575	65, 575
France .....	722	135, 571	136, 293
French West Indies .....	22, 826		22, 826
French possessions in Africa .....	2, 961	27, 847	30, 808
Germany .....	16, 215	633, 383	649, 598
England .....	9, 074, 002	3, 488, 074	12, 563, 076
Ireland .....		8, 674	8, 674
Nova Scotia .....	60, 876	49, 867	110, 743
British West Indies .....	94, 259	122, 634	216, 893
British Guiana .....		28, 619	28, 619
Greece .....		34, 592	34, 592
Hayti .....	13, 080		13, 080
Italy .....	427, 370	618, 566	1, 045, 936
Netherlands .....	454	69, 971	70, 425
Dutch West Indies .....	429	5, 197	5, 626
Dutch East Indies .....		70, 477	70, 477
Peru .....	46, 623		46, 623
Portugal .....	21, 178	38, 241	59, 419
Spain .....	183, 176		183, 176
Cuba .....	4, 862, 758	1, 422, 383	6, 285, 141
Porto Rico .....	133, 555	271, 717	405, 272
Sweden .....		155, 615	155, 615
United States of Colombia .....	3, 069		3, 069
Venezuela .....	106, 975	623, 829	730, 874
Total .....	15, 125, 548	9, 311, 932	\$24, 437, 480
Imported via New York .....			567, 304
Total .....			25, 004, 784
Imported during the year 1873 direct .....	\$11, 396, 694	\$15, 424, 202	\$26, 820, 896
Imported via New York .....			2, 186, 925
Total imported 1873 .....			29, 186, 925

## DUTIES RECEIVED.

*Amount of duties received at the custom house of Philadelphia, from January 1 to December 31, 1874.*

	ON IMPORTS.		ON MERCHANDISE WITH- DRAWN FROM WAREHOUSE.		On goods transport- ed in bond under act of July, 14, 1870 .....	On goods transport- ed in bond, under act of July 14, 1870, and withdrawn from warehouse ..	On goods transport, ed from other dis- tricts.....	Total duties receiv- ed 1874.....	Total duties receiv- ed during the year 1873.....
	Imported in American vessels.	Imported in foreign vessels.	Imported in American vessels.	Imported in foreign vessels.					
January.....	\$171,204 13	\$90,732 16	\$189,574 79	\$128,838 63	\$17,346 57	\$32,701 52	\$13,006 71	\$452,404 51	\$383,706 29
February.....	242,968 59	180,847 22	188,663 81	124,870 30	24,446 27	17,892 10	13,071 55	751,759 77	508,453 46
March.....	433,084 91	86,472 36	194,208 69	82,030 36	13,405 84	12,726 29	10,885 63	826,801 08	802,727 83
April.....	323,681 23	128,679 28	190,487 80	68,426 81	13,231 38	8,068 62	9,909 00	746,304 18	785,243 22
May.....	282,841 65	153,209 35	249,307 33	101,642 59	10,096 14	7,801 79	10,459 81	715,380 04	714,063 58
June.....	180,463 95	138,325 16	303,396 76	194,175 11	8,153 69	9,231 26	6,125 62	880,601 55	561,694 03
July.....	180,720 30	221,169 20	194,151 45	156,611 05	14,461 14	3,475 53	4,963 13	725,572 00	688,158 07
August.....	210,498 67	144,466 46	218,919 20	85,990 32	14,096 24	13,540 87	5,916 98	694,170 74	796,557 40
September.....	271,814 89	143,672 60	237,821 58	171,275 91	14,990 74	13,199 43	9,051 42	890,926 61	621,520 82
October.....	115,559 35	137,163 00	161,389 22	177,662 84	16,068 66	8,372 63	16,261 44	682,487 14	690,861 61
November.....	187,036 68	93,809 29	99,767 15	69,297 04	9,565 84	4,024 24	21,834 18	485,344 42	457,073 11
December.....	173,217 93	76,454 60	92,936 27	100,948 91	6,783 22	2,721 35	16,246 10	469,308 38	577,178 39
Totals.....	2,689,562 72	1,475,217 92	2,320,724 08	1,461,771 87	163,455 73	113,795 53	137,631 57	8,392,150 42	7,897,237 76
Amount of duties received during the year 1873.	1,769,148 03	2,224,964 85	1,188,950 85	1,220,178 91	600,871 32	547,656 34	144,467 46		



## COMMERCE OF PHILADELPHIA.

## NATIONALITY OF VESSELS

Entered into the port of Philadelphia during the year 1874.

	Number. Tonnage.	
American.....	409	245,099
Austrian.....	12	5,724
Belgian.....	13	29,603
British.....	302	167,393
Danish.....	7	2,311
Dutch.....	5	1,758
French.....	1	493
German.....	110	70,915
Italian.....	55	24,633
Portuguese.....	7	1,940
Russian.....	17	9,736
Spanish.....	9	5,849
Swedish.....	121	56,187
Total.....	1,008	621,641

## ENTRANCES AND CLEARANCES OF VESSELS.

Statement of the vessels entered at and cleared from the port of Philadelphia in coastwise trade during the year 1874:

	ENTERED.		CLEARED.	
	No.	Tonnage.	No.	Tonnage.
January.....	77	45,578	98	59,980
February.....	79	42,064	87	54,651
March.....	123	53,396	121	61,436
April.....	164	63,285	144	67,601
May.....	132	59,137	157	79,248
June.....	160	70,979	165	76,147
July.....	149	68,686	149	71,073
August.....	128	56,388	152	72,345
September.....	132	57,374	136	66,460
October.....	129	52,547	161	75,558
November.....	125	46,114	133	60,797
December.....	130	52,998	140	67,113
Total.....	1,528	664,456	1,653	812,409

## FOREIGN IMPORTS.

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## STATEMENT OF IMMIGRANTS

Arrived at the port of Philadelphia from foreign countries during the year 1874:

NATIONALITY.	Males.	Females.	Totals.
Africa.....	5	.....	5
Austria.....	43	18	61
Hungary.....	14	10	24
Belgium.....	55	42	97
Brazil.....	2	.....	2
Chili.....	1	.....	1
China.....	2	.....	2
Denmark.....	32	26	58
France.....	238	100	338
Germany.....	1,092	791	1,883
Great Britain and dependencies:			
England.....	1,178	1,034	2,212
Scotland.....	38	28	66
Ireland.....	1,102	1,049	2,151
Nova Scotia.....	1	.....	1
British West Indies.....	8	4	12
Australia.....	1	.....	1
Greece.....	1	.....	1
Italy.....	177	44	221
Mexico.....	1	.....	1
Netherlands.....	56	34	90
Portugal.....	1	.....	1
Russia.....	499	440	939
Poland.....	54	26	80
Switzerland.....	176	130	306
Sweden and Norway.....	137	93	230
Spain.....	16	1	17
Cuba.....	42	24	66
Turkey.....	1	.....	1
Venezuela.....	2	.....	2
Total.....	4,975	3,894	8,869
Total number of immigrants in 1873.....	2,241	1,440	3,681

The detailed statement, which we publish of the imports for the year 1874, will bear close study. The most apparent and most important deduction to be drawn from their analysis is the gratifying fact that while the imports of the entire country have notably decreased during the year, the business of the port of Philadelphia has constantly grown greater. The amount received at the Philadelphia custom-house for duties during the year 1873 was \$7,697,237 76, while in the year just closed the aggregate reached \$8,392,159 42, showing in this item a gain of \$694,921 66; an exhibit altogether satisfactory, when the utter stagnation of trade throughout the country is taken into consideration. We consider the indication a most hopeful one for our commercial future, and cannot doubt that with the revival of prosperity the ratio of increase here will be maintained to such an effect as will place Philadelphia among the foremost of American ports. In the matter of immigration, too, we find that with the press of the entire country teeming with lamentations about the "return current," the inducements and attractions of Philadelphia as a port of

arrival have brought about an increase of 5,188 immigrants. No better argument can be advanced to prove the superiority of the Philadelphia steamship line than is given in this one fact, and it is but an earnest of what is to come when the arrangements for the control of this business become more nearly perfected.

Comparing the figures in some of the leading articles of traffic with those representing the results of the previous year, we find that an increase is registered in cotton, \$691,169; in flax, \$467,923; in leather and its products, \$279,579; in opium, \$226,156; in silks, \$397,009; in tin plates, \$168,502; in wine and spirits, \$96,420; and in woolen manufactures, \$1,463,178. The decrease is most noticeable as follows: In copper, \$81,841; in iron and its manufactures, \$2,617,142; in lead, \$59,335; in metals, \$31,028; in provisions, \$80,611; in soda carbonate, \$611,572; in sugar, \$2,207,055; in molasses, \$607,330, and in clay \$37,101.—*N. A. and U. S. Gazette.*

## THE COMMERCIAL ADVANTAGES OF PHILADELPHIA.

### HER UNEQUALLED TERMINAL FACILITIES AND RAPID GROWTH OF TRADE.

At no time, perhaps, during the history of our State has its foreign commerce shown such a gratifying increase as during the past two years, and, thanks to native energy and enterprise, Philadelphia, as our gateway to the sea, once more ranks among the foremost of Atlantic ports. Pre-eminent, indeed, as Pennsylvania has long been as a manufacturing State, the establishment of direct communications between Philadelphia and Europe was apparently all that was requisite to revivify her foreign commerce, and to place her on that highway of commerce between the new and old worlds to which her geographical position and unequalled terminal facilities at Philadelphia justly entitled her, and that the result has not been disappointing, a glance at the following statement must both carry conviction with it and convey an assurance that the rapid progress already made is but the forerunner of greater activity in the future.



## STATEMENT OF TOTAL IMPORTS AND EXPORTS OF THE UNITED STATES,

*Including gold and silver, with those of her five principal ports for fiscal years ending June 30, 1872, 1873, 1874.*

## IMPORTS.

INTO	Value for 1872.	Value for 1873.	Per centage of gain or loss of 1873 over 1872.	Value for 1874.	Per centage of gain or loss of 1874 over 1873.
United States.....	\$640,338,766	\$663,617,147	3.6 increase...	\$595,861,248	11.3 decrease..
Philadelphia.....	20,383,853	25,393,150	24.5 increase...	26,447,037	4.15 increase...
Boston.....	70,398,185	68,083,307	3.4 decrease...	52,212,405	30.0 decrease..
New Orleans.....	18,542,188	19,933,344	7.5 increase...	14,533,864	37.1 decrease..
New York.....	418,515,829	426,321,427	1.86 increase...	395,133,622	7.88 decrease..
Baltimore.....	28,836,365	29,287,603	1.6 increase...	29,302,138	Stationary.....
All other ports.....	83,662,406	94,598,316	13.7 increase...	78,232,182	20.9 decrease..

## EXPORTS.

FROM	Value for 1872.	Value for 1873.	Per centage of gain or loss of 1873 over 1872.	Value for 1874.	Per centage of gain or loss of 1874 over 1873.
United States.....	\$571,989,467	\$677,282,074	18.4 increase...	\$716,819,392	5.85 increase...
Philadelphia.....	21,016,750	24,239,357	15.3 increase...	33,121,337	36.6 increase..
Boston.....	23,199,668	29,392,645	26.6 increase...	30,610,650	4.14 increase..
New Orleans.....	90,802,849	104,898,732	15.5 increase...	93,715,710	11.93 decrease..
New York.....	285,574,892	332,102,062	16.3 increase...	354,993,732	6.89 increase..
Baltimore.....	18,459,533	19,421,723	5.2 increase...	27,692,709	42.58 increase..
All other ports.....	132,935,775	167,227,555	25.6 increase...	176,685,254	5.06 increase..

## IMPORTS.

Our imports, amounting in 1872 to \$20,383,853, had increased to \$25,393,150 in 1873, or at the rate of 24.5 per cent. per annum, and in 1874, notwithstanding the general stagnation of trade throughout the country, to \$26,447,037, an increase of 4.15 per cent. over 1873, while, on the other hand, the total importations of the United States during the same period had suffered a decrease of over 11 per cent. Free, also, from her former dependence, on neighboring cities for steam communication across the Atlantic, Philadelphia now competes with them for the carrying trade of the west and south, and by the unequalled facilities she can offer for its conduct, even levies tribute from those to whom she was but yesterday tributary. Thus, in a period of little over two years, has our State not only rendered herself in a great degree quite independent of the foreign steamship lines of neighboring ports, but is enabled to offer important commercial centres like Pittsburg, Lancaster, Harrisburg, Chicago, St. Louis, Cincinnati, Savannah, Charleston, &c., a show in the substantial advantages which she herself enjoys, and, as may be seen from accompanying table, many of these cities have already availed themselves of the Philadelphia route for portion of their importations, which, it is well to note, generally consist of the more valuable kinds of merchandise.

## IMPORTATIONS IN BOND VIA PHILADELPHIA.

The following is a report of merchandise received at the port of Philadelphia by the American and Red Star steamship lines, from January 1 to December 31, 1874, and sent in bond under the act of July 14, 1870, viz :

Chicago.....	4,668	packages.
New York.....	6,802	"
Baltimore.....	1,179	"
Cincinnati.....	229	"
Milwaukee.....	126	"
Pittsburg.....	61	"
St. Louis.....	11	"
Louisville.....	4	"
Total.....	<u>13,080</u>	"

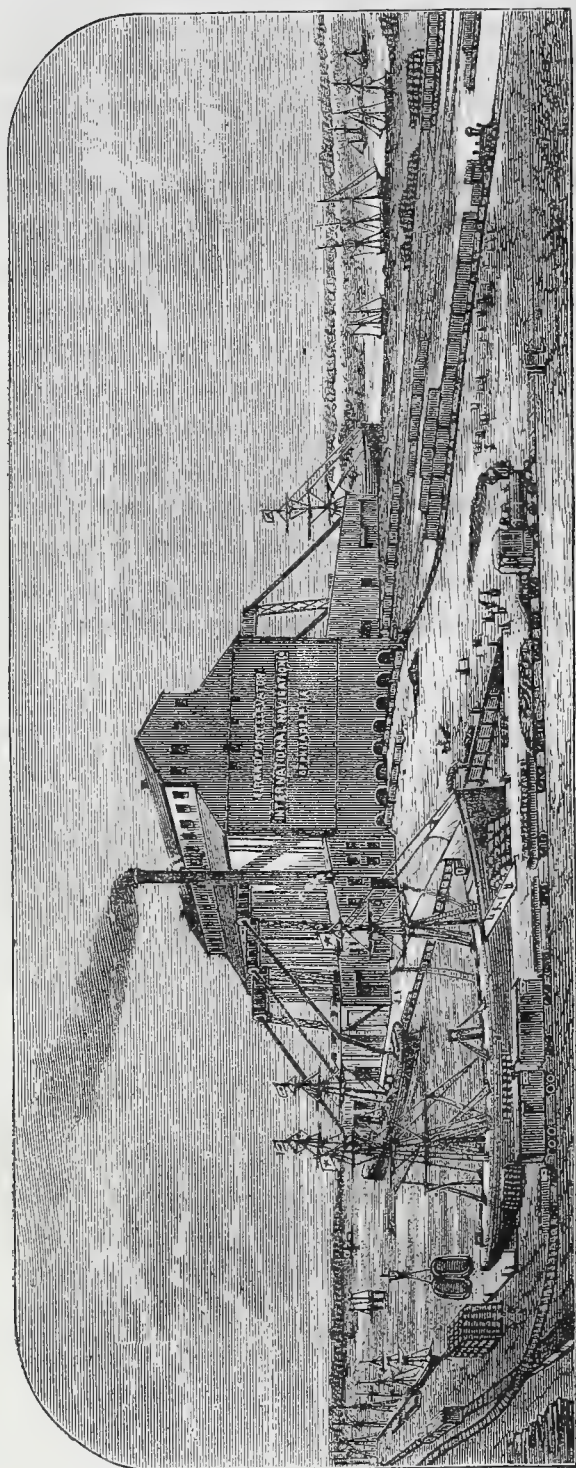
## EXPORTS.

In even a more marked degree have these advantages served to build up the exports of our State, and while the shipments from our port for 1873 show an increase in value of fifteen per cent. over those for 1872. The statistics of the past year give evidence of over thirty-six per cent. on 1873, and this at a time when all the principal staples of export had seriously declined in value. Connected, indeed as she is, with all parts of the United

States by such a vast net-work of railroads, the development of the foreign trade of Philadelphia, already fostered by her own steam-ship lines, can only be limited by the means at her disposal for the transportation of merchandise, and appreciating their necessity, such attractions have been offered to the managers and controllers of tonnage throughout the world, seeking business with the United States, as have now practically secured for Philadelphia a supply of tonnage commensurate with her wants. New elevators have been erected, with a capacity to load eight vessels at one time, free wharfage offered, the harbor improved, port charges reduced, and the advantages of the Delaware breakwater, as one of the finest port of call, brought prominently to the attention of the world. Large and manifold also as are the industries of our own State, the produce of the West and South, to no considerable extent, forms an important percentage of Pennsylvania's exports; and to our fellow-citizens in these quarters, Philadelphia furnishes a shipping point second to none in the country. Our trunk lines of railroads run their branches into their elevators, cotton presses, packing houses and through their grain fields, bringing merchandise from the spot, direct to Philadelphia without a change, by cars which run alongside the steamers or vessels already provided for its transport across the ocean. Speed in transit has also been studied, and with no idle boast, the Pennsylvania route from the West to Europe may now be called the shortest in existence.



# GRAIN ELEVATORS OF THE INTERNATIONAL NAVIGATION COMPANY AT GIRARD POINT, PHILADELPHIA.



While upon the subject of exports, and especially those of grain, it may not be uninteresting to add a few remarks upon some recent improvements at Philadelphia, which are destined to play an important part in the future exports of grain through Pennsylvania.

Reference is made to the *grain elevators of the International navigation company at Girard Point, Philadelphia*. Situated, on the one hand, at the eastern terminus of the vast system of railroads penetrating *West, North-west and South-west*, and owned and controlled by the Pennsylvania railroad company; on the other hand, at the junction of the Delaware and Schuylkill rivers; and while sufficiently inland to afford a secure harbor, (with such depth of water that the *largest* vessels can load at the spacious wharves,) they afford facilities which form one of the most effective solutions of the problem of cheap transportation yet offered at any port on the Atlantic seaboard. The grain, loaded into cars at the most remote points, is brought *without any transshipment* into the elevators, through which it

is passed *directly* to vessels. Having arrangements for loading twelve vessels *at one time*, the utmost dispatch is secured for tonnage, and the large storage capacity, (now 1,000,000 bushels, and to be increased to 4,000,000,) gives the western shippers the advantage of holding their property at tide water, in thoroughly fire proof ware-houses, until it is desired to ship, when vessels of any size are at his disposal, the low expenses of the port and the liberal policy of the company in giving free wharfage and other facilities, attracting vessels from all parts of the world.

When it is seen that the increase in grain shipments from Philadelphia in 1874 was 44 $\frac{1}{4}$  per cent. over those of 1873, *without the aid of these valuable improvements*, a further and yet *more important* progress may reasonably be anticipated during the present year, and a steady advance in the future.

The International Navigation Company own 98 acres of land at the junction of the Delaware and Schuylkill rivers, and the elevators, which are situated at this point, as above described, are only one of the many features in the improvements established here.

At each side and in front of the elevators are the largest wharves in the country, being each 500 feet long and 250 feet wide ; upon these wharves are built extensive ware-houses, into which run the tracks of the Pennsylvania railroad company, and where all goods arriving from the interior and intended for shipment to any part of Europe, or discharged from arriving steamers and sailing vessels and destined for the great cities of the West, are handled under cover. The goods are handled with the greatest ease, dispatch and economy, by means of powerful machinery on the docks and in the ware-houses.

The ware-houses are bonded, and goods arriving from a foreign port can be stored here till the importer desires to pay duty. Foreign goods destined for the interior can be examined and appraised in these ware-houses and shipped off without delay, avoiding the tedious and expensive examination at the custom-house, customary at other ports.

The docks are large and commodious ; a fleet of steamers can be afloat and discharge and load in them at all stages of the tide.

From the large amount of property owned by the company at this point, these docks, wharves and ware-houses are capable of large extension, sufficient to meet any demands, and additional improvements will be made as business requires them.



## PETROLEUM.

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BY PETER WRIGHT & SONS.

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Notwithstanding the many adverse influences arising from an almost world wide commercial depression, the production and refining of crude petroleum still hold their position among the leading industries of our State ; and at the present moment it is estimated that over sixty nations of the globe now fill their lamps with Pennsylvania oil. The discovery of the article and its mode of manufacture were so fully dwelt upon in last report that in compiling that for 1874 a short synopsis of such facts and figures as more particularly relate to the production, refining and export of this staple has been deemed sufficient to give to the intelligent reader a comprehensive idea of the extent and value of a trade which furnishes to the world the cheapest illuminator of modern times, and one which is only found in paying quantities in the State of Pennsylvania.

## PRODUCTION.

Although commencing the year with fair prices, the large production of the fourth sand wells, struck at the latter part of 1873, and the extensive stocks of crude in the regions, combine to prevent the usual active prosecution of new developments ; and it was not until the close of March, when the apparent small extent of the fourth sand belt induced considerable more activity, only, however, to be followed by a smart reaction, the increased production from these new third sand wells, the extension of the territory, and from further strikes on the fourth sand belt, (which was discovered to be of further extent than was at first supposed,) having a most depressing influence in the value of crude, bringing it down in fact to such a figure as to show nothing but a loss to the producer. The almost total cessation in drilling operations, which naturally resulted, has served in a measure to restore a better feeling, and prices for the end of December, 1874, closed at about the same figures as those current on the 1st of January, while the total production for the year is somewhat in excess of that of 1873.



## WELLS DRILLING.

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## NUMBER OF WELL DRILLING AT VARIOUS DATES.

MONTHS.		1874.	1873.	1872.	1871.	1870.	1869.	1868.	1867.
January	1.....	37	361	469	167	364	378	182	.....
February	1.....	55	249	420	173	388	341	150	.....
March	1.....	99	227	405	159	395	334	160	.....
April	1.....	213	177	301	231	433	292	193	.....
May	1.....	225	228	334	247	412	312	217	.....
June	1.....	210	295	378	306	463	345	257	.....
July	1.....	180	340	390	386	349	305	299	.....
August	1.....	128	267	349	353	319	310	327	.....
September	1.....	107	197	347	364	306	315	331	.....
October	1.....	82	163	361	426	305	331	370	.....
November	1.....	57	137	359	481	206	360	435	232
December	1.....	60	60	353	490	191	346	401	255



Stock of crude petroleum in the producing regions on the first of each month,  
1868 to 1874, inclusive.

	1874.	1873.	1872.	1871.	1870.	1869.	1868.
January.....	1,948,919	1,085,435	623,348	507,751	340,000	264,000	534,000
February.....	2,283,032	1,183,630	692,282	587,021	342,000	274,000	541,000
March.....	2,528,210	1,266,375	866,548	642,944	351,000	282,000	552,000
April.....	2,623,534	1,244,655	1,040,898	673,810	385,000	329,000	559,000
May.....	2,594,286	1,178,645	1,144,240	685,616	329,000	365,000	421,000
June.....	2,701,625	1,192,540	1,203,649	554,424	341,568	365,000	290,000
July.....	2,794,790	1,324,495	990,229	541,676	321,840	309,090	268,000
August.....	2,998,319	1,443,620	979,166	530,933	356,908	307,000	267,000
September.....	3,100,000	1,513,890	951,410	541,875	419,477	332,000	295,000
October.....	3,241,617	1,513,185	914,423	495,666	473,896	292,000	263,000
November.....	3,700,000	1,452,895	759,630	503,574	576,014	275,000	266,000
December.....	4,000,000	1,493,875	923,947	532,974	554,626	337,000	253,000

TABLE showing monthly shipments of crude petroleum from producing regions  
during the year 1874.

Total shipments for the month of January.....	705,961 barrels.
Do.....do.....February.....	390,276 "
Do.....do.....March.....	433,650 "
Do.....do.....April.....	605,624 "
Do.....do.....May.....	754,638 "
Do.....do.....June.....	669,315 "
Do.....do.....July.....	756,039 "
Do.....do.....August.....	648,180 "
Do.....do.....September.....	837,226 "
Do.....do.....October.....	566,378 "
Do.....do.....November.....	498,218 "
Do.....do.....December.....	508,891 "
	<hr/>
	7,374,396 "
	<hr/>

Daily average for the year, say 365 days, at 20,203 barrels, 7,374,396 barrels.



TABLE showing price of refined petroleum at Philadelphia, from 1864 to 1874, inclusive, giving opening, highest, lowest and closing price of spot or prompt delivery for each month for the eleven years, 1864 to 1874, inclusive.

MONTHS.	1864.				1865.				1866.				1867.				1868.				1869.			
	Opening..	Highest..	Lowest..	Closing..	Opening..	Highest..	Lowest..	Closing..	Opening..	Highest..	Lowest..	Closing..	Opening..	Highest..	Lowest..	Closing..	Opening..	Highest..	Lowest..	Closing..	Opening..	Highest..	Lowest..	Closing..
January.....	44	46	43	45	69	73	66	68	51	62½	50	51	27	27½	27	27½	22½	23½	22½	23½	31¼	35½	31¼	35½
February.....	45	46½	44	46	67	68	65	67	45	51	45	45	27½	27½	27½	27½	22½	23½	22½	23½	31¼	35½	31¼	35½
March.....	45½	50	46	50	53	53	53	53	40	43	38	40	27½	27½	27½	27½	22½	23½	22½	23½	31¼	35½	31¼	35½
April.....	50	55	49	54	53	53	53	53	38	43	38	40	27½	27½	27½	27½	22½	23½	22½	23½	31¼	35½	31¼	35½
May.....	57	62	55	61	54	53	53	53	41	42½	39	41	27½	27½	27½	27½	22½	23½	22½	23½	31¼	35½	31¼	35½
June.....	50	54	50	51	50	53	50	50	42	42	39	41	27½	27½	27½	27½	22½	23½	22½	23½	31¼	35½	31¼	35½
July.....	53	55	53	54	53	53	53	53	40	42½	39	41	27½	27½	27½	27½	22½	23½	22½	23½	31¼	35½	31¼	35½
August.....	72	85	73	83	52	53	51½	52	37	41	37	41	27½	27½	27½	27½	22½	23½	22½	23½	31¼	35½	31¼	35½
September.....	83	83½	82	83	52	52	51	52	38	43	38	42	27½	27½	27½	27½	22½	23½	22½	23½	31¼	35½	31¼	35½
October.....	61	65	60	63	66	61	58	62	35	42	33	35	27½	27½	27½	27½	22½	23½	22½	23½	31¼	35½	31¼	35½
November.....	66	68	63	68	63	63	63	63	33	37	33	33	27½	27½	27½	27½	22½	23½	22½	23½	31¼	35½	31¼	35½
December.....	68	78	68	73	67	63	63	67	28½	32	28½	32	27½	27½	27½	27½	22½	23½	22½	23½	31¼	35½	31¼	35½

MONTHS.	1870.				1871.				1872.				1873.				1874.			
	Opening..	Highest..	Lowest..	Closing..	Opening..	Highest..	Lowest..	Closing..	Opening..	Highest..	Lowest..	Closing..	Opening..	Highest..	Lowest..	Closing..	Opening..	Highest..	Lowest..	Closing..
January.....	30½	30½	30½	30½	22¼	26¼	22¼	24¼	22¼	22¼	22¼	22¼	27	27	20½	20½	13½	14½	13½	13½
February.....	30	27½	27½	27½	22¼	25¼	22¼	24¼	22¼	22¼	22¼	22¼	27	27	19	19	13½	14½	13½	13½
March.....	27½	27½	27½	27½	22¼	24¼	22¼	24¼	22¼	22¼	22¼	22¼	27	27	19	19	13½	14½	13½	13½
April.....	27½	27½	27½	27½	22¼	24¼	22¼	24¼	22¼	22¼	22¼	22¼	27	27	19	19	13½	14½	13½	13½
May.....	27½	27½	27½	27½	22¼	24¼	22¼	24¼	22¼	22¼	22¼	22¼	27	27	19	19	13½	14½	13½	13½
June.....	27½	27½	27½	27½	22¼	24¼	22¼	24¼	22¼	22¼	22¼	22¼	27	27	19	19	13½	14½	13½	13½
July.....	27½	27½	27½	27½	22¼	24¼	22¼	24¼	22¼	22¼	22¼	22¼	27	27	19	19	13½	14½	13½	13½
August.....	27½	27½	27½	27½	22¼	24¼	22¼	24¼	22¼	22¼	22¼	22¼	27	27	19	19	13½	14½	13½	13½
September.....	24	26	24	26	22¼	24¼	22¼	24¼	22¼	22¼	22¼	22¼	27	27	19	19	13½	14½	13½	13½
October.....	25¼	25¼	25¼	25¼	22¼	24¼	22¼	24¼	22¼	22¼	22¼	22¼	27	27	19	19	13½	14½	13½	13½
November.....	23	23¼	23¼	23¼	22¼	24¼	22¼	24¼	22¼	22¼	22¼	22¼	27	27	19	19	13½	14½	13½	13½
December.....	23	23¼	23¼	23¼	22¼	24¼	22¼	24¼	22¼	22¼	22¼	22¼	27	27	19	19	13½	14½	13½	13½

TABLE SHOWING PRICE OF REFINED PETROLEUM AT PHILADELPHIA—Continued.

TABLE showing number of Vessels, with Rig and Nationality, loaded at Philadelphia with Petroleum during the years of 1870, 1871, 1872, 1873 and 1874.

RIG.	American.....	Austrian.....	Belgian.....	British.....	Danish.....	Dutch.....	French.....	German.....	Holland.....	Italian.....	Norwegian..	Nicaragua..	Portuguese..	Russian.....	Spanish.....	Swedish.....
<b>1870.</b>																
Ships.....	20			25				3			2					
Barks.....	43		1	96	4	1	1	25		4	36		3		2	12
Brigs.....	21	1		24	1			3		5	5		1			
Bkt'ns.....																
Schooners.....	1			2												
	85	1	1	147	5	3	1	31		9	43		4		2	2
<b>1871.</b>																
Ships.....	18			25				13			3				1	1
Barks.....	41			89	3	1		38		7	38	1	3	1	2	9
Brigs.....	19			13	1			3		2	4		2	2	1	
Bkt'ns.....																
Schooners.....	3														1	
	81			127	4	1		54		9	45	1	5	3	5	10
<b>1872.</b>																
Ships.....	19			25			1	12			2				1	1
Barks.....	29	2		91		4	1	36		5	38		6	4		4
Brigs.....	9			14	2	1		5		4	7		4			2
Bkt'ns.....	1			1												
Schooners.....	1					1									1	
	59	2		131	2	6	2	53		9	47		10	4	2	7
<b>1873.</b>																
Ships.....	19			37				17			10			1		1
Barks.....	35	2		112		3		94		18	66		2	8		7
Brigs.....	19			14	1	1		9		10	4		3	3	2	3
Bkt'ns.....	1			1	1									1		3
Schooners.....	3			2												
	77	2		166	2	4		120		28	80		5	13	2	14
<b>1874.</b>																
Ships.....	14		1	34				31			7					1
Barks.....	23	1		68	4			72	1	16	56		2	6	3	18
Brigs.....	8			8	2			1		7	9		5	1	1	2
Bkt'ns.....	2			6												
Schooners.....	4										1					
	51	1	1	116	6			104	1	23	73		7	7	4	23

Total number of vessels loaded at Philadelphia with petroleum in 1870..... 334, carrying 1,100,851 barrels.  
 Do.....do.....do.....do..... 1871..... 345, " 1,238,061 "  
 Do.....do.....do.....do..... 1872..... 334, " 1,314,439 "  
 Do.....do.....do.....do..... 1873..... 513, " 1,889,146 "  
 Do.....do.....do.....do..... 1874..... 417, " 1,652,601 "

REFINING CAPACITY.

Although the condition of the trade has hardly warranted much increase to the refining capacity of the country, a good deal has been done in the way of improving machinery, repairs, &c., many of the manufacturers taking advantage of the prevailing dullness to completely close their works, for the sake of more thoroughly making such necessary renovations. It is also worthy of note that the economical arrangements which years of experience have gradually introduced into the manufacture of the article have tended more than ever to make it a national industry, and the time seems not far distant when the refining of petroleum will be as exclusively ours as its production. At the present time it is estimated that the refineries now constructed in the United States have a capacity to refine 40,000 barrels crude per day, divided as follows :

STATE OF PENNSYLVANIA.

	Per ct.	Barrels.
Philadelphia . . . . .	16 or	6,400
Pittsburg . . . . .	22 or	8,800
Oil regions . . . . .	18 or	7,200
	<hr/> 56 or	<hr/> 22,400

STATE OF NEW YORK.

New York . . . . .	25 or	10,000
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STATE OF OHIO.

Cleveland . . . . .	19 or	7,600
	<hr/> 100 or	<hr/> 40,000

EXPORTS.

Although the shipments of 1873 were somewhat in excess of what has generally been considered a normal increase in the foreign consumption, the amount of petroleum and its products which left the country during 1874 has been little short of the figures for the previous year. In view, however, of the general dullness of trade, the decrease is indeed wonderfully small, and the stocks now held in Europe would show that the increase in consumption within the past two years has been at a greater ratio than at any time since the discovery of the article. In the far east, too, new markets are opening up, and the wants of the teeming millions of India, China and Japan may soon demand a production far ahead of what it is at the present day.



## THE INTERNATIONAL EXHIBITION.

The great importance of this exhibition, not only to the interests of Philadelphia but to those of the State, render it eminently proper that some allusion should be made to it in these pages. The result of all former exhibitions of a similar character has been to largely increase business, open up new avenues of trade and to bring new inventions before the world. It was estimated at the close of the year 1867, that over \$50,000,000 has been expended in the city of Paris, *beyond* the annual expenditures in that city. The interest already shown in Europe indicates not only that we shall have large exhibits from the various nations, but that from 20 to 30,000 visitors may be expected. These visitors will be composed of various classes, many of them capitalists, who will take this opportunity to make a thorough examination of our land with the object of making permanent investments, and the important coal and iron interests of this State will doubtless receive marked attention. Still further, there can be no question, but by the results of this exhibition, showing for the first time the progress of the nation at one glance, the tide of emigration will be largely increased and by a better class of emigrants than have heretofore reached our shores. As to our own people, information has been received from all sections that the number of visitors will be immense, various estimates have been made but the general opinion is that during the period at which the International Exhibition will remain open not less than ten millions of Americans will enter its portals. When we consider that there are within a radius of 250 miles of Philadelphia a population of over 12,000,000, this estimate does not appear unreasonable, a large number of these visitors will take advantage of the opportunity to visit all sections of the State and it is to be hoped that the greatest facilities will be offered by our numerous railroads in 1876, and at reasonable rates, thus increasing their own income and making the Keystone State better known to our own people.

To Philadelphia this opportunity is an unrivaled one, and its citizens proud of the position bestowed upon them by a National Congress, are using every effort to have their city in good condition for the great event. Every facility will be given to strangers. Hotels are now being erected, streets improved, supplies of both water and gas increased, new street railroads built, and the ornamentations of the city and Fairmount Park will be largely improved. Philadelphia to-day, the largest manufacturing city in the world, bids fair, under the impetus given by this great world congregating, to take a stand as a large commercial city. The American and Red Star steamship company, which has steadily gained ground since

its origin, will find use in 1876 for all its material; it has been estimated that two-thirds of our foreign visitors will come by this line, and naturally a large proportion of the freight for the exhibition will be carried on their steamers. There can be no question, but this will tend to increase foreign trade hereafter and make Philadelphia a prominent commercial port. We shall now give such facts as we have been able to obtain as to the origin, present position and future prospects of the international exhibition which we have had illustrated by a map and designs of the buildings.

#### ORIGIN.

In 1871 various memorials and petitions were presented to Congress relative to the proper celebration of our Centennial anniversary in 1876. That body, after due deliberation, decided that the movement was a proper one, and in the preamble to the law making provisions for a fitting celebration, did commend the same to the people in the following felicitious terms, to wit :—

“WHEREAS, The Declaration of Independence of the United States of America was prepared, signed and promulgated in the year of 1776, in the city of Philadelphia :

“*And whereas*, It behooves the people of the United States to celebrate by appropriate ceremonies the Centennial anniversary of this memorable and decisive event, which constituted the 4th day of July, Anno Domini 1776, the birth-day of the nation :

“*And whereas*, It is deemed fitting that the completion of the first century of our national existence shall be commemorated by an exhibition of the national resources of the country and their development, and of the progress in those arts which benefit mankind, in comparison with those of other nations :

“*And whereas*, No place is so appropriate for such an exhibition as the city in which occurred the event it is designed to commemorate :

“*And whereas*, As the exhibition should be a national celebration in which the people of the whole country should participate, it should have the sanction of the Congress of the United States.”

The letter and spirit of the law following this preamble shows that Congress intended that the celebration should be broadly national in its character, for it intrusted the management to commissioners to be chosen from the several States and Territories, and provided that the leading feature of the ceremonies should be a national and international exhibition of arts, manufactures and the products of the soil and mine, “to be conducted under the auspices of the government of the United States.”

The Commission to direct the celebration and exhibition was constituted accordingly in the summer of 1871. But it was soon discovered that that

body was wanting in authority to raise the necessary capital for the erection of buildings and other proper preparations. To supply this need Congress, in 1872, created another corporation known as the Centennial Board of Finance clothed with the right to raise capital, not exceeding \$10,000,000, by selling its own capital stock, in shares of \$10 each, accompanied with the right to one vote for each share in the election of directors. "The proceeds of said stock, together with the receipts from all other sources, shall be used by said corporation for the erection of suitable buildings, with their appropriate fixtures and appurtenances, and for all other expenditures required in carrying out the objects of the said act of Congress of March 3, 1871, and which may be incident thereto." And the tenth section reads as follows, to wit:—"That as soon as practicable after the exhibition shall have been closed it shall be the duty of said corporation to convert its property into cash, and after the payment of all its liabilities, to divide its remaining assets among its stockholders *pro rata*, in full satisfaction and discharge of its capital stock."

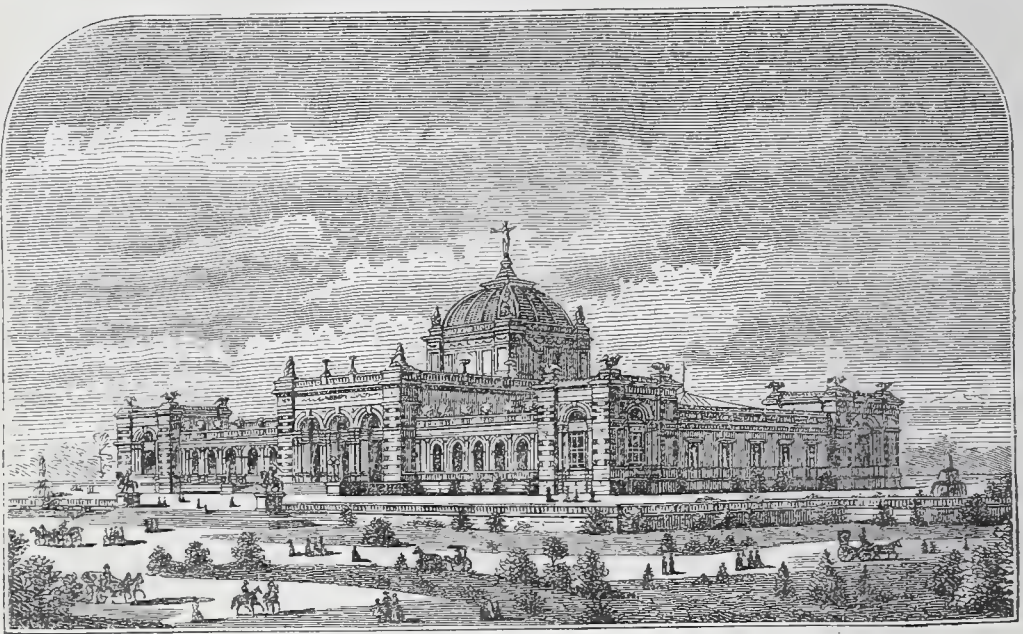
On the 4th of July, 1873, the proper authorities of the city of Philadelphia, in the presence of the President of the United States, by her special representatives and a vast gathering of the people, presented to the United States Centennial Commission a deed dedicating to said commission 450 acres of ground in Fairmount Park for the uses and purposes of the said Centennial Exhibition. The President of the United States, by his special representative, commended the proposed celebration to the favor and support of the people of the United States, and did also call the attention of the governments of foreign countries to the proposed international exhibition of arts, manufactures, &c., to the end that all might participate therein.

#### THE INVITATION TO FOREIGN NATIONS.

Then, again, Congress, at its last session, while adhering to the policy indicated in its laws of 1871 and 1872 that the capital necessary for preparations should arise from the voluntary contributions of the people, passed a law facilitating the raising of capital, and another providing for the admission of articles for exhibition from foreign countries free of duty; and another, in the following terms, to wit: "That the President be requested to extend, in the name of the United States, a respectful and cordial invitation to the governments of other nations to be represented and take part in the International Exhibition, to be held at Philadelphia, under the auspices of the government of the United States, in the year 1876;" and we are informed that that cordial invitation, under direction of the President, has gone out to all the civilized nations of the world.



These matters having been officially settled by Congress the Board of Finance at once commenced its work and in the hands of an energetic building committee, contracts were made on favorable terms for the commencement of the appropriate buildings. As is well known to our readers the first of these buildings placed under contract, was the Memorial Hall or Art Gallery, for the erection of which the State of Pennsylvania and the city of Philadelphia have appropriated \$1,500,000. This magnificent building has received universal commendation for the beauty of its design and its adaptability to the purposes for which it is destined. After the close of the exhibition it will remain as an heirloom to be handed to our children's children as an evidence of the patriotism of the Keystone State. This build-

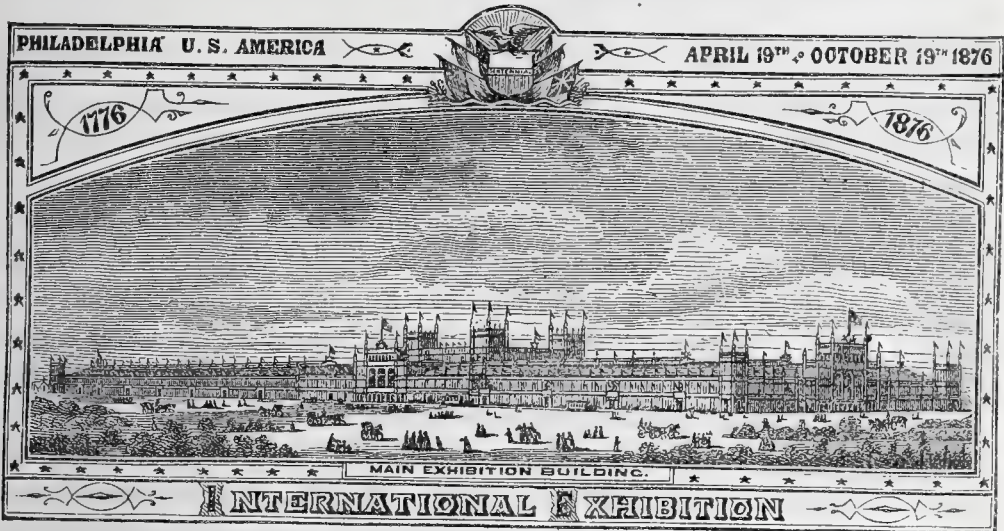


MEMORIAL HALL—ART GALLERY.

ing is of granite, glass and iron, thoroughly fire proof, 365 feet long; 210 feet in width and 59 feet in height, the whole surmounted with a dome which rises from the centre of the structure to the height of 150 feet from the ground, it is intended especially for the display of fine arts during the international exhibition and will prove one of the most effective features of interest in 1876.

The inner walls of this building are nearly completed, and the granite is being placed with great rapidity. The contract requires that it shall be completed in perfect readiness for use six months in advance of the opening of the exhibition. The second building put under contract was the main exhibition building, which will be the principal object of attraction in 1876. This edifice is to be built mainly of iron and glass, the foundations

are completed, and the material to be used is being rapidly produced at the various mills and factories of our own State. It will cover at least twenty



acres of space, the length east and west being 1,880 feet, width 464 feet, height 70 feet, height of central towers 120 feet. The area, covering 936,008 square feet, is to be divided into parallel zones lengthwise of the building, countries and States occupying parallel sections crosswise of the building, thus bringing the products of each class from the whole world into the same line. The remaining buildings are the machinery hall, occupying fourteen acres. The agricultural department, ten and a half acres, and a conservatory and horticultural hall, three hundred and sixty feet long and one hundred and sixty feet wide, all of which cover over fifty acres, and are under contract, or nearly so, with every surety that they will be completed in due season. The entrance to the main building will be from Elm avenue, with every facility for transportation from every section of the city, either by horse cars, by the steam railroads, by the boats on the Schuylkill, or by carriage and omnibus. At no former exhibition have the facilities been so complete for visitors through the immense iron net work which reaches all over our continent, parties can take their seats either at Montreal or San Francisco and land directly in the exhibition building without change of cars. We would again remark here that it is eminently the interest of this State that our own roads should so reduce their fare as to secure the largest number of passengers which they may have the capacity to transport.

As to the success of the exhibition, we feel warranted in saying that a wide spread interest has been awakened, and the present indications signify a marked success. Already the applications for space from our own people are nearly equal to the entire space set apart for the United States. We



have sufficient reason to believe that in the departments of useful machinery, manufactures and natural productions the display will be grander than anything of the kind heretofore witnessed.

#### ACTION OF FOREIGN COUNTRIES.

The indications as to the display from foreign countries at this date, a year and a half in advance of the beginning, are far more favorable than had been anticipated by the managers. The following named countries have taken action, to wit: The German Empire has accepted the invitation of the President; France has accepted, and has appointed commissioners resident in Philadelphia and New York; Sweden and Norway have appointed a commission, and have gone so far as to provide for defraying the cost of transportation of goods of their subjects to the exhibition and home; Great Britain has accepted in the most cordial manner, and it is surmised that the Prince of Wales will head the commission. In several of the British colonies—especially in Canada, Australia, New Zealand, Tasmania, and others of the Australasian islands, exhibitions of unusual completeness and interest have been prepared; in Austria a large number of manufacturers and artisans have solicited space in the exhibition buildings. The governments of Central America and South America have manifested special interest in the exhibition, and the President's invitation has been accepted by Peru, United States of Colombia, Nicaragua, the Argentine Confederation, Brazil, Venezuela, Ecuador, Chili, Guatemala and Salvador, and for these countries commissioners have been appointed, and the money appropriated for their expenses. Mexico, Honduras and Hayti have also accepted the invitation. Brazil and other South American nations have made application for space. In addition, the Netherlands, Belgium, Liberia, the Sandwich Islands, China, Japan and Switzerland have accepted the invitation. Spain has accepted, and appointed Senor Emilio Castelar, the eminent republican statesman, to be her resident commissioner at the American exhibition.

The means to the celebration provided for by Congress we regard as most fortunate. Great exhibitions, displaying the progress of the several nations in civil arts, always impart most valuable lessons. Nothing has done more for England and France within the past quarter of a century than their great international exhibitions, and no one can doubt that the coming exhibition will be followed by similar results to our country.

We have thus given in brief such facts as it seemed of importance to incorporate in this report; and in our report for 1875 we earnestly trust not only to record the completion of the work, but also its large increase necessitated by the demand for space from our own and foreign countries.







## THE DELAWARE BREAKWATER.

One of the finest natural harbors on the Atlantic seaboard is formed by the Delaware Bay, situated midway between the harbors of New York and Hampton Roads, it lies in the direct track of commerce between the Northern and Southern States and South America, and, moreover, forms one of the most convenient ports of call for vessels from Europe and the Eastern hemisphere. Protected naturally by the head lands of Cape Henlopen and Cape May, science has also lent its aid to improve the safety of the anchorage, and by the construction of the massive sea walls, known as the Delaware breakwater, the harbor has been made one of the safest in the world. These works which are of great magnitude were completed by the government in 1869. The longer wall is 2,500 feet in length, the shorter 1,400 feet. They are built of the heaviest stones on rock foundations, and the storms of past years only demonstrate their strength.

Vessels of any size can lie in deep water, close to these defences, and the navies of the world could shelter behind them in perfect security.

The harbor proper is immediately inside of Cape Henlopen, on the south side of the entrance to Delaware Bay. The entrance channel is broad and deep, and the anchorage so near the course of passing vessels as to entail the least loss of time in reaching or leaving it.

The approaches and neighboring waters are well supplied with lights. Upon Cape May, at the north-eastern side of the entrance to the bay, there is a very powerful white light of the first order, flashing at half minute intervals; this is visible at a distance of eighteen nautical miles. Upon Cape Henlopen, at the south-western side of the entrance to the bay, there is a powerful fixed white light, also of the first order, visible at a distance of seventeen nautical miles; and at a distance of seven-eighths of a mile from the main light there is a white beacon, visible at a distance of twelve nautical miles. Upon the Breakwater is a fixed beacon varied by white flashes at intervals of three-quarters of a minute.

There are several life saving stations in the vicinity, while a government steamer cruises in the neighborhood for the assistance of disabled vessels.

The harbor has peculiar facilities for communications with all parts of the world. The Western Union telegraph company, whose wires reach this point, have arrangements for giving special attention to messages for vessels, and cables or telegrams addressed merely with vessels' name are delivered to the captain, while Delawarebreakwater in such messages, if so written, is only charged as one word. The government has built a magnificent iron pier, 1,500 feet long, extending out into deep water, and communication can be had with vessels at anchor in the harbor at all times; this pier is to be still further lengthened.



The holding ground for vessels anchoring there is of the very best description, and by the construction of some further improvements, which are now under consideration by the national government, the harbor will be made to rank with any in the world. Reference is asked to the enclosed diagrams for additional information concerning this magnificent port of call, and which bears such intimate relation and influence on the commerce of Pennsylvania.

### VITAL STATISTICS.

#### MARRIAGES, BIRTHS AND DEATHS IN PHILADELPHIA, 1873.

MONTHS.	Marriages.	Births.	Deaths.
January.....	642	1,670	1,724
February.....	588	1,507	1,299
March.....	463	1,544	1,658
April.....	674	1,295	1,287
May.....	659	1,410	1,272
June.....	711	1,483	1,289
July.....	570	1,705	2,265
August.....	520	1,700	1,443
September.....	660	1,549	1,129
October.....	828	1,636	1,316
November.....	749	1,634	1,024
December.....	827	1,569	1,030
Total.....	7,891	18,702	*16,736

Marriages, 10.52 in every 1,000 of population.

Births, 24.93 in every 1,000 of population.

Deaths, †20.29 in every 1,000 of population.

#### BIRTHS.

The following table will show the number of births in each month, the number of colored and still births, and twins :

MONTHS—1873.	Total.	Births.		Black.		Still-born.		Twins.....
		M.	F.	M.	F.	M.	F.	
January.....	1,670	884	786	15	15	54	49	9
February.....	1,507	772	735	11	11	38	25	14
March.....	1,544	804	740	10	11	41	32	7
April.....	1,295	700	595	10	12	47	34	12
May.....	1,410	753	657	11	15	43	37	14
June.....	1,483	789	694	12	20	45	34	12
July.....	1,705	869	836	19	10	41	35	16
August.....	1,700	929	771	20	11	29	30	16
September.....	1,549	807	742	14	13	38	22	7
October.....	1,636	853	783	18	10	41	38	11
November.....	1,634	862	772	15	19	44	22	10
December.....	1,569	823	746	6	16	41	31	15
Total.....	18,702	9,845	8,857	161	163	502	389	143

\*Includes still-born and deaths from other localities.

†Based on actual deaths in our city.

The number of births in each quarter of the year, was as follows :

First quarter, ending March 31 .....	4,721
Second quarter, ending June 30.....	4,188
Third quarter, ending September 30.....	4,954
Fourth quarter, ending December 31.....	4,839
Total.....	18,702

## MARRIAGES.

## AGES OF THE PARTIES.

The following table will show the ages of the parties married during the year 1873 :

1873.	AGES OF THE WOMEN.									Total men,
	Under 20.	20 to 25.	25 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	Not given	
<i>Ages, men:—</i>										
Under 20.....	33	6	.....	1	.....	.....	.....	.....	1	41
20 to 25.....	1,119	1,601	172	27	1	.....	.....	.....	14	2,934
25 to 30.....	352	1,223	599	124	8	1	.....	.....	17	2,324
30 to 40.....	74	468	480	348	40	4	.....	.....	15	1,429
40 to 50.....	3	44	96	212	84	9	.....	.....	1	449
50 to 60.....	.....	7	14	54	52	22	3	.....	.....	152
60 to 70.....	.....	1	1	9	13	8	5	.....	1	38
70 to 80.....	.....	.....	.....	.....	2	3	1	1	.....	7
80 to 90.....	.....	.....	.....	1	.....	1	.....	.....	.....	2
Not given.....	4	4	.....	2	.....	.....	.....	.....	505	515
Total, women	1,585	3,354	1,362	778	200	48	9	1	554	7,891

The number of men married under twenty was only forty-one, (41,) while the women amounted to one thousand five hundred and eighty-five, (1,585,) two thousand nine hundred and thirty-four, (2,934) men were married between the ages of twenty and twenty-five, of whom one thousand one hundred and nineteen, (1,119) married women under twenty, one thousand six hundred and one, (1,601) married women between twenty and twenty-five; one hundred and seventy-two, (172) married women between twenty-five and thirty, twenty-seven (27) married women between thirty and forty, and one (1) married woman between forty and fifty. Fifty-eight (58) women over the age of fifty were married, and one hundred and ninety-nine (199) men over the same age were married.

The ages of five hundred and fifteen (515) men, and five hundred and fifty-four (554) women were omitted.

## MORTALITY.

The number of interments in the city during the year amounted to sixteen thousand seven hundred and thirty-six, (16,736,) a decrease from the

previous year of three thousand eight hundred and eight, (3,808,) or 18.53 per cent.

Total number of interments during the year 1873.....	16,736
White.....	15,757
Colored.....	979
Total .....	16,736
Males.....	8,635
Females.....	8,101
Total .....	16,736
Male adults.....	4,223
Female adults.....	4,160
	8,383
Male children.....	4,412
Female children.....	3,941
	8,353
Total .....	16,736
Deaths from registered diseases.....	14,524
Deaths from still-born.....	891
Deaths from old age.....	538
Deaths from unknown, external and accidental causes.....	783
Total .....	16,736
Deduct still-born.....	891
Deduct from other localities.....	621
	1,512
Actual deaths in city.....	15,224

Taking the actual deaths in our city, fifteen thousand two hundred and twenty-four, (15,224,) and making the basis of our calculation on the increase of the population, (750,000,) we find the deaths in our city to be one in every 49.26 of the population.



The following table shows the percentage of deaths during specified periods of life, compared with a similar statement of the mortality in the year 1872 :

1872.				1873.			
Under 1 year.....	5,862	Being	28.53 per cent.	5,121	Being	30.59 per cent.	
1 to 2 years.....	1,706	"	8.30 "	1,074	"	6.41 "	
2 to 5..do.....	1,586	"	7.72 "	956	"	5.71 "	
5 to 10..do.....	782	"	3.80 "	448	"	2.61 "	
10 to 15..do.....	423	"	2.05 "	265	"	1.57 "	
15 to 20..do.....	685	"	3.33 "	489	"	2.92 "	
20 to 30..do.....	2,163	"	10.52 "	1,710	"	10.21 "	
30 to 40..do.....	1,892	"	9.29 "	1,515	"	9.05 "	
40 to 50..do.....	1,497	"	7.29 "	1,337	"	7.98 "	
50 to 60..do.....	1,178	"	5.73 "	1,125	"	6.72 "	
60 to 70..do.....	1,139	"	5.54 "	1,133	"	6.76 "	
70 to 80..do.....	991	"	4.82 "	962	"	5.74 "	
80 to 90..do.....	530	"	2.53 "	501	"	2.99 "	
90 to 100..do.....	94	"	.45 "	87	"	.51 "	
100 to 110..do.....	15	"	.07 "	13	"	.07 "	
110 to 120..do.....	1	"	.004 "				
Total.....	20,544			16,736			

From the foregoing table it will be noticed the mortality of children under ten years of age amounted to seven thousand six hundred and nine, (7,609,) or 45.38 per cent., of the total mortality, while those under twenty years amounted to eight thousand three hundred and fifty-three, (8,353,) or 49.81 per cent., or nearly one-half of the entire mortality; six hundred and one (601) died over the age of eighty years; thirteen (13) over the age of one hundred (100;) the number of infants under one year was five thousand one hundred and twenty-one, (5,121,) or 30.59 per cent., of total mortality, almost one-third of the entire list.

The following table of mortality in each ward, with the percentage of deaths to total mortality, (still-births not included :)

WARDS—1873.	Deaths.	Per-centage
First.....	689	4.52
Second.....	651	4.27
Third.....	454	2.98
Fourth.....	574	3.10
Fifth.....	444	2.92
Sixth.....	225	1.47
Seventh.....	725	4.76
Eighth.....	401	2.63
Ninth.....	230	1.51
Tenth.....	417	2.73
Eleventh.....	332	2.18
Twelfth.....	294	1.93
Thirteenth.....	314	2.06
Fourteenth.....	371	2.43
Fifteenth.....	879	5.77
Sixteenth.....	327	2.14
Seventeenth.....	492	3.23
Eighteenth.....	652	4.28
Nineteenth.....	1,443	9.47
Twentieth.....	712	4.67
Twenty-first.....	265	1.74
Twenty-second.....	417	2.67
Twenty-third.....	318	2.08
Twenty-fourth.....	631	4.14
Twenty-fifth.....	441	2.89
Twenty-sixth.....	869	5.70
Twenty-seventh.....	398	2.61
Twenty-eighth.....	240	1.57
Twenty-ninth.....	444	2.91

The highest mortality occurred in the Nineteenth ward, one thousand four hundred and forty-three, (1,443,) or 9.47 per cent. of the total mortality; the lowest number in the Sixth ward, two hundred and twenty-five, (225,) or 1.47 per cent. The deaths in the Twenty-seventh ward were three hundred and ninety-eight, (398.) (Deaths in almshouse not included in this amount.)

The following table will show a general summary of the returns of births, marriages and deaths, for the past thirteen years and six months :

Years.	Births.	Marriages.	Deaths.
1860—6 months.....	8,434	2,310	6,342
1861.....	17,271	4,417	14,468
1862.....	14,741	4,662	15,079
1863.....	15,293	5,474	15,788
1864.....	15,591	6,752	17,582
1865.....	15,428	6,864	17,169
1866.....	17,437	7,087	16,803
1867.....	17,007	6,084	13,933
1868.....	17,259	6,371	14,693
1869.....	16,960	6,382	14,786
1870.....	17,194	6,421	16,750
1871.....	18,346	6,806	16,993
1872.....	20,072	6,496	20,544
1873.....	18,702	7,891	16,736
Totals.....	229,735	84,017	*217,684

\*Includes deaths from other localities and still-born.

The above table shows the total number of births, marriages and deaths recorded in this office since July, 1860. It will be noticed that during the years of the rebellion, 1862, 1863, 1864, the deaths exceeded the births, thus showing the disastrous effects war has upon the natural increase of population. Since the year 1865, with only one exception, (1872,) the births have exceeded the deaths, showing a natural increase of population; the year 1872 the deaths outnumbered the births, owing to the epidemic of small-pox.

## DEATHS IN CITIES, 1873.

	No. of deaths.	Rate of living. 1,000.
London .....	74,792	22.3
Paris.....	42,531	23.2
Brussels.....	4,544	24.8
Berlin.....	29,954	30.6
Vienna.....	19,809	32.7
Rome .....	7,152	29.3
Turin .....	5,537	24.8
Calcutta.....	11,782	25.3
Bombay.....	15,617	24.1
New York.....	28,490	27.9
Philadelphia.....	16,736	20.3

## AREA OF THE CITY OF PHILADELPHIA.

WARDS.	Area in acres.	Area in sq. miles.
First .....	3,526	5.509
Second.....	283	.442
Third.....	122	.191
Fourth.....	147	.229
Fifth .....	206	.321
Sixth.....	206	.321
Seventh .....	281	.439
Eighth.....	279	.435
Ninth .....	256	.400
Tenth .....	230	.359
Eleventh.....	135	.210
Twelfth .....	124	.193
Thirteenth.....	164	.259
Fourteenth.....	152	.237
Fifteenth.....	671	1.049
Sixteenth .....	180	.281
Seventeenth.....	161	.251
Eighteenth.....	416	.650
Nineteenth.....	903	1.455
Twentieth.....	469	.734
Twenty-first.....	4,560	7.129
Twenty-second.....	11,593	18.114
Twenty-third.....	27,339	42.716
Twenty-fourth .....	6,224	9.725
Twenty-fifth.....	6,630	13.660
Twenty-sixth.....	5,100	8.000
Twenty-seventh.....	7,475	11.680
Twenty-eighth.....	4,060	6.343
Twenty-ninth.....	900	1.400
Total.....	82,603	129.382





# APPENDIX.

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ARTICLES TOO LATE FOR CLASSIFICATION IN MAIN PART  
OF REPORT.





# APPENDIX.

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## STATE TAXATION IN PENNSYLVANIA.

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An old maxim warns us that in this busy world "none escape death and few taxation." The absolute certainty of the first should admonish us to be ever ready; and the imperative necessity of the second requires us to submit without needlessly ruffling our tempers. All forms of government require the citizen to contribute some portion of his income to insure the protection of his life and property and the amount thus contributed is called his tax. Whether this taxation is heavier or lighter must largely depend upon the wisdom which enacts our laws and the economy and faithfulness of their administration. The manner in which the exact proportion due from each member of society shall be ascertained and collected, has at all times and in all countries been a subject of great perplexity. It has puzzled the wisdom of statesmen and philosophers, some of whom have solved the problem to their own satisfaction, but very rarely to the satisfaction of the tax-payer. The question of taxation is one in which every citizen is interested and upon which we are all very sensitive. It appeals directly to our pockets and we are easily inclined to listen to any argument, however fallacious, tending to show that we are too heavily burdened. Our prejudices are frequently applied to, even in Pennsylvania, by the cry of "taxes! taxes!" To show how little ground there is for complaint, and how, on the contrary, there is great reason for congratulation on the part of citizens of Pennsylvania, for the manner in which the question of State taxation is here disposed of will be the object of this article; and I know of no way in which this can be done more satisfactorily than by a comparison of the annual revenues of our State with those of other States, giving also the sources from whence the revenues are derived. Take for instance New York and Massachusetts, two prosperous and wealthy Commonwealths. According to the annual financial reports of these States for the year 1873, (reports for 1874 cannot be obtained at this writing,) and of Pennsylvania for 1874 the revenue of the States named was as follows:

Pennsylvania, for 1874.....	\$5,871,968
Massachusetts, for 1873.....	11,894,918
New York, for 1873, (not including receipts from canals)...	<u>18,550,210</u>

From these figures it will be seen that the State of Pennsylvania, having a population nearly equal to that of New York and more than double that of Massachusetts, is governed at an expense of less than one-third the cost of government in New York and less than one-half that of Massachusetts. This exhibit is very gratifying and speaks volumes in favor of the wisdom and economy with which our finances are at present managed. In addition to the small amount of revenue required for State purposes we must also consider the sources from which that revenue is derived and the manner in which it is collected. In New York and Massachusetts the great bulk of revenue is raised by direct taxation, no tax being imposed upon the franchises of corporations. In Pennsylvania it is quite different. For years the simplicity and economy of our system of State taxation has been the envy and the admiration of our sister States and an abundant source of satisfaction on the part of citizens of our own. While the revenues of other Commonwealths have been raised principally from taxes falling directly upon the people, by far the greater proportion of our revenues are derived from corporations. We have no State tax whatever upon real estate and but a very light one on personal property. By our system the burden of State taxation is lifted almost entirely from the shoulders of the private citizens and falls without oppressive weight upon the corporations. It is at once simple, effective and economical. No army of commissioned assessors and collectors is required, the taxes of corporations being paid directly into the State Treasury upon accounts settled by the Auditor General and State Treasurer, without the deduction of any commission or expense whatever; and for this reason alone the amount of revenue required to be assessed is undoubtedly from ten to fifteen per cent. less than would be required under any other system.

The sources of our revenue in 1874 were as follows:

Tax on corporation stocks.....	\$1,400,118 80
Tax on gross receipts.....	81,887 29
Tax on tonnage.....	130,931 35
Tax on coal.....	82,601 26
Tax on incomes.....	89,207 41
Tax on loans.....	418,381 66
Tax on bank stock.....	304,064 93
Tax on coal companies.....	80,084 58
Tax on foreign insurance companies.....	292,733 40
Tax on personal property.....	545,523 24
Tax on writs, wills, deeds, &c.....	157,783 21
Bonus or premiums on charters.....	56,498 13
Collateral inheritance tax.....	350,676 45

Retailers', tavern, &c., licenses .....	\$871,803 22
Collections on outstanding indebtedness.....	875,160 00
Miscellaneous.....	134,513 34
	<hr/>
	\$5,871,968 27

The total revenue in 1874 was \$1,204,754 93 less than in 1873, taxes to about that amount having been repealed absolutely by the Legislatures of 1873 and 1874. Recent decisions of the Supreme Court and the new Constitution having seriously affected the existing tax law, the Legislature of last winter found it necessary to very materially alter them. The items which in the foregoing statement are designated as taxes on gross receipts, tonnage, coal, income and loans have all been repealed. The tax on capital stock of railroad companies was increased to meet in part the deficiency arising from the repeal of some of the other taxes and a tax on coal companies takes the place of the tax on coal.

A classification of the figures in the foregoing statement shows that of the total revenue for 1874 there was derived as follows :

From corporations by direct taxation.....	\$2,936,508 81
From corporations as interest on bonds, commutation, &c,	875,160 00
	<hr/>
Total from corporations.....	3,811,668 81
From taxes on the people generally.....	\$2,060,299 46
	<hr/>
Total revenue in 1874.....	5,871,968 27

Of the two millions of dollars put down as taxes on the people generally, nearly one-half is derived from licenses and is but indirectly a tax on the people.

It is sometimes urged that the taxes on corporations fall ultimately upon the people in the shape of increased prices, railroad freights, &c. That this is not the case to any great extent can be clearly demonstrated, but even were it true to its fullest extent, it would only add another argument in favor of the system ; for in no other way could the burden be so evenly and justly distributed. /

It is worthy of mention, that notwithstanding the smallness of the revenue in 1874, our State debt has been reduced to the extent of \$1,230,186 57 ; and it may be added that there is no State in the Union which, in proportion to its population and importance, is governed at so little expense as ours, no State where the burdens of State taxation fall so lightly, and no State whose securities command in market so high a price as those of Pennsylvania. Upon these facts we may congratulate ourselves.



## STATE TAXATION FOR THREE YEARS.

STATEMENT of receipts at the State Treasury from the several sources of revenue during the fiscal years ending November 30, 1872, November 30, 1873, and November 30, 1874 :

SOURCES OF REVENUE.	1872.	1873.	1874.
<i>Corporations:</i>			
Railroad, canal, express, navigation and transportation companies.....	\$2,412,730 75	\$2,869,082 80	\$1,256,459 54
Coal, iron, improvement, mining and manufacturing companies.....	438,197 88	660,538 52	573,379 64
Passenger railway companies.....	74,134 40	74,537 19	43,984 11
Bridge, turnpike and plank road companies	31,231 61	34,368 25	27,611 24
Banks.....	341,021 31	342,499 63	329,693 30
Counties, cities and boroughs.....	102,464 21	107,057 19	111,322 35
Gas and water companies.....	36,750 26	50,633 92	30,977 12
Oil companies.....	90,482 93	48,221 37	33,909 70
Telegraph companies.....	6,564 50	7,952 01	7,207 11
Insurance companies, (domestic,).....	116,389 59	113,990 76	87,017 78
Insurance companies, (foreign,) licenses,&c	351,396 08	353,490 78	292,775 07
Premiums on corporation charters.....	101,584 74	68,343 76	56,498 13
Annuity for right of way, (Erie railroad,)..	10,000 00	10,000 00	10,000 00
All other companies and associations.....	24,693 01	46,636 00	82,233 87
<i>Miscellaneous taxes:</i>			
Tax on personal property.....	561,316 12	541,607 91	545,523 24
Notaries public, tax on receipts.....	1,683 67	2,711 27	2,670 53
Notaries public, commissions.....	.....	7,450 00	7,225 00
Tax on enrolment of laws.....	30,080 00	36,800 00	2,620 00
Tax on logs.....	900 00	1,500 00	1,600 00
Tax on writs, wills, deeds, &c.....	119,380 32	113,117 52	128,508 11
Tax on certain offices.....	20,770 56	10,723 89	6,619 34
Collateral inheritance tax.....	354,819 98	327,973 99	379,610 70
Tavern licenses.....	346,116 70	321,322 73	326,978 92
Retailers' licenses.....	424,941 83	424,974 89	444,979 33
Theatre, circus and menagerie licenses....	3,020 45	5,121 75	5,286 75
Billiard, bowling saloon and ten-pin alley licenses.....	7,064 59	10,552 94	8,909 59
Eating house, beer house and restaurant licenses.....	42,316 81	42,165 02	44,801 63
Peddlers' licenses.....	2,679 61	2,830 38	2,948 40
Brokers' licenses.....	5,335 75	10,736 98	13,415 96
Patent medicine licenses.....	1,112 00	3,875 91	5,905 66
Brewery and distillery licenses.....	5,821 45	8,009 47	7,739 15
Millers' tax.....	641 16	4,486 84	1,590 29
Pamphlet laws.....	510 20	714 67	543 51
Fees of public officers.....	5,801 00	19,681 57	28,676 26
Auctioneers' commissions and duties.....	36,703 97	.....	.....
Auctioneers' commissions.....	.....	13,765 34	18,761 03
Fines and penalties.....	.....	4 00	12 00
Stevadore licenses.....	.....	.....	191 72

STATEMENT OF RESOURCES AT STATE TREASURY—*Continued.*

SOURCES OF REVENUE.	1872.	1873.	1874.
<i>Collections on outstanding indebtedness:</i>			
Refunded cash.....	\$4,938 05	\$3,715 70	\$5,340 55
Dividends on bridge stocks.....	240 00		160 00
Sale of public property and escheats.....	26,202 45		29,666 97
Sale of public property.....		100 00	
Cases of conscience.....	880 00	945 00	
Accrued interests.....	4,204 31	4,297 97	10,108 50
Lands patented.....	45,724 73	53,035 48	32,695 18
Commutation of tonnage tax, as per act, 1861	460,000 00	230,000 00	690,000 00
Allegheny Valley railroad, interest on bonds, per act 1869.....	87,500 00	87,500 00	175,000 00
	6,738,346 95	7,077,073 40	5,871,968 27

The revenue of 1874 appropriated by law :

First. To the Sinking Fund.....	\$3,054,939 07
Second. To general expenses of government .....	2,817,029 20
	<u>5,871,968 27</u>

## STATE EXPENDITURES FOR THREE YEARS.

TABLE showing expenditures of the Commonwealth for the years 1872, 1873 and 1874.

	1872.	1873.	1874.
Senate .....	\$171,845 04	\$107,037 37	\$134,460 76
House of Representatives.....	236,689 89	260,763 88	269,084 13
Public printing.....	101,047 21	131,916 43	152,252 85
Executive department.....	30,830 69	40,503 39	14,320 11
Judiciary .....	331,474 30	348,916 01	383,800 07
Public offices.....	83,034 53	94,513 79	141,706 21
Military expenses.....	22,122 17	72,242 82	63,437 31
Packing and forwarding laws.....	1,290 00	1,383 90	529 50
Paid electors of President and Vice President.....		703 00	
Constitutional Convention.....		410,723 80	86,461 42
Pensions and gratuities.....	54,831 11	50,334 57	43,889 77
Centennial Committee.....	6,325 31	6,755 14	
Charitable institutions.....	441,527 10	439,307 13	689,889 48
Soldiers' orphan schools .....	471,986 41	469,308 94	419,295 64
Common schools.....	667,191 50	804,097 89	838,082 24
Pennsylvania State Agricultural Society..	2,000 00	2,000 00	2,000 00
Amendments to Constitution.....	10,900 96	7,366 94	140 00
Loans redeemed, &c.....	2,511,172 87	1,551,762 57	1,262,234 72
Interest on loans.....	1,706,032 88	1,563,029 20	1,466,374 34
Damages and old claims.....	13,670 23	2,206 97	4,948 00
Harbor master, Philadelphia.....	1,874 99	2,708 34	2,916 66
Port warden, Philadelphia.....	2,500 00	2,499 99	2,291 66
Inspectors of coal mines.....	24,775 03	23,223 06	24,474 88
State library.....	6,550 00	8,750 00	7,100 00
Public buildings and grounds.....	29,636 64	90,591 23	101,738 84
Houses of Refuge .....	71,900 00	55,325 00	42,500 00
Penitentiaries.....	58,324 30	73,882 02	68,762 02
Escheats .....	7,459 34	693 80	7,014 03
Counsel fees and commissions .....	8,332 22	3,000 00	11,177 00
Special commissioners.....	2,619 57	13,255 00	25,762 91
Commissioners to adjust claims for damages in border counties.....	7,945 19		
Mercantile appraisers.....	1,784 79	2,188 47	2,698 47
Luzerne county riots.....	538 34		
Board of Public Charities.....	5,943 18	7,543 23	7,767 76
Revenue commissioners.....	1,800 00		
County surveyors.....	1,960 00	5,865 00	3,324 00
Assessors of bank stock.....		15,071 19	15,614 09
Inaugural expenses.....		4,974 19	
Funeral of ex-Governor John W. Geary.....		4,306 41	
Miscellaneous .....	45,074 64	50,026 90	24,902 05
Williamsport riots.....			396 77
Susquehanna Depot riots .....			16,693 03
Centennial exposition.....			71,815 22
Domestic creditors.....			58 61
Mechanics' High School.....			685 22
Board of Pardons.....			1,458 34
Geological survey.....			16,000 00
Stationery, fuel, &c.....			2,020 59
Publishing new Constitution.....			202,782 19
Advertising for proposals.....			9,706 97
Total.....			6,642,567 86



## RAILROADS IN PENNSYLVANIA.

CARTERSVILLE, GEORGIA, }  
 December 13, 1874. }

GOVERNOR:—I wish to find a history of the inauguration of your railroad system in Pennsylvania and the inception of the movements for the development of the coal mines in your State. It appears to me that these enterprises were fostered by the State government. If you can put me on track of what I want you will do me a great favor and I hope some public good.

I am a member of the Georgia State Senate and have been in the Legislature of Georgia several years. I am looking into matters kindred to those here indicated for Georgia.

I am, with high respect,

JOHN W. WOFFORD.

*To the Governor of Pennsylvania.*

BUREAU OF STATISTICS, }  
 HARRISBURG, December 28, 1874. }

JOHN W. WOFFORD, Esq.,

SIR:—Governor Hartranft has referred yours of December 13th to my department for answer.

The development in Pennsylvania of her coal mines, canals and railroads would require a volume to answer. Nearly fifty years since the agitation of this subject in our State resulted in an extensive undertaking by the State itself of works of internal improvement. In accordance with the notions of the day these were chiefly canals, railroads being only used to connect our canals where a supply of water could not be had. The result of that policy was the construction by the State of what was known as her "main line," about a dozen of branches and subscriptions to canals, railroads, turnpikes and bridges in all parts of the State, costing about as follows:

	Aggregate cost.
Main line, (126 miles railroad, 292 miles canal,) . . . . .	\$18,615,663 00
Branch canals and railroads. . . . .	16,484,419 00
Stocks in various corporations. . . . .	6,194,380 00
	<hr/>
	41,294,462 00

These corporations were managed by a board of canal commissioners. Their management was not satisfactory to the public, more on account of their constant interference in politics than even the loss incurred. The most of the profitable corporation stocks had been sold in 1843, the main line was sold in 1857, the branch canals in 1858, and about the same time the constitutional amendment of 1857 was adopted prohibiting the State from constructing any such works on her own account or being a stockholder in any railroad, canal or other kindred work.

The main line,	costing \$18,615,663,	was sold for \$7,500,000,	loss \$11,115,663
Branch canals, &c.,	16,484,419,	3,500,000,	12,984,419
Corporation stocks,	6,194,380,	1,440,130,	4,754,250
	<u>41,294,462,</u>	<u>12,440,130,</u>	<u>28,854,332</u>

Financially, therefore, Pennsylvania has not much to boast of in her investments in canals. She is, however, better off than her sister New York, which upon a still larger investment in canals has not realized for many years past enough to pay the cost of their management. Private companies, in Pennsylvania, have invested over \$36,000,000 in the construction of canals, about one-half of which are paying from three to six per cent. and the other half less than that upon the cost of their construction.

The building of railroads in our State, did not commence until ten or twelve years later than her canal system. The now great Reading railroad was many years in reaching the anthracite coal fields. She has now absorbed some sixteen branch railroads, two or three canals, represents an expenditure of about \$73,000,000, upon which she has paid for many years ten per cent. dividends. This company has within the last few years, bought up about one hundred thousand acres of land in the anthracite coal region. She now, therefore, not only controls the entire transportation business in the counties through which her roads are located, but also owns the most productive portions of the southern anthracite coal basin. Her investments in railroads, work-shops, coal mines and iron works, cannot fall below \$125,000,000, upon all which I presume she is realizing ten per cent. dividends.

The Pennsylvania railroad, a still mightier corporation, was not commenced until about ten years later than the Reading. She has now not only her own main line, but has absorbed as branches, at least two-thirds of all the railroads in our State; and beyond our State line has controlling interests in all the great east and west lines, terminating at Cleveland and Chicago on the lakes, St. Louis on the Mississippi, and Cincinnati and Louisville on the Ohio river. She also has large investments from Baltimore, Washington, and various points southward, even as far as your own State. I would estimate the investments of the Pennsylvania railroad within our

own State, at about \$150,000,000, and without the State, probably double that amount.

Four or five railroads centering at New York, penetrate northern Pennsylvania, and about as effectually control the coal trade of the northern anthracite basin as the Reading does the southern. I am not so well posted in reference to those roads as the former, but suppose that there is at least \$50,000,000 invested in railroads and at least \$25,000,000 in coal lands in the Lackawanna, Lehigh and Blossburg coal fields.

The Erie and Atlantic and Great Western, centering at New York, penetrate portions of northern Pennsylvania, and accommodate the trade of those sections. The value of their investments in our State I cannot ascertain. The Baltimore and Ohio railroad has expended about \$15,000,000 in southwestern Pennsylvania. A primary design of all these investments has been to reach the iron, coal and oil products of our State. The State of Pennsylvania in her corporate capacity holds no stock in any of these railroads. The main interest held by the great corporations pay their stockholders at the rate of ten per cent. per annum. Immense amounts of individual stock in the branch roads, which had generally been partly completed before their absorption by the main lines, are worth very little to the holders. Probably not much short of \$50,000,000 of original individual stock might to-day be purchased at ten per cent. on its cost.

The effect of the building of railroads has been to add ten-fold to the value of our mineral products. It has also greatly increased, but in a less degree, the value of real and personal property.

The increase of the anthracite coal trade for each period of ten years is as follows :

From 1820 to 1830.....	359,190 tons.
From 1830 to 1840.....	5,210,685 "
From 1840 to 1850.....	18,954,678 "
From 1850 to 1860.....	58,333,469 "
From 1860 to 1870.....	106,883,488 "

The returns for bituminous and semi-bituminous, block and gas coal cannot be so conveniently ascertained. The aggregate of all these are now nearly equal to the anthracite. The value of the anthracite at the mines is about double that of the bituminous.

Your State, Georgia, is frequently called the Pennsylvania of the South. Your State is probably in a very different position from ours. Yours, perhaps, more nearly approximates to what ours was half a century ago. Our individual wealth at that time was not sufficient to undertake the internal improvements necessary to the development of our mineral wealth. The State was then induced to undertake these improvements. Now the wealth



of our citizens has so largely increased that all such works are left to the individuals. Public sentiment, concurring with the prohibitions of our Constitution, forbids the State either in her corporate capacity or as a stockholder to build such works. In Georgia the condition of things may be very different, of which her own citizens are the proper judges.

I remain yours,

THOMAS J. BIGHAM,

*Commissioner of Statistics.*

## CONDITION OF NATIONAL BANKS.

TREASURY DEPARTMENT,  
OFFICE OF COMPTROLLER OF THE CURRENCY, }  
WASHINGTON, November 18, 1874.

SIR:—As promised you in my letter of October 10 last, I send you herewith abstracts of the reports showing the condition of the banks of Philadelphia, and of Pittsburg, and of those of the remainder of the State, exclusive of the cities named October 2, 1874.

Very respectfully,

JOHN JAY KNOX,  
*Comptroller.*

Hon. THOS. J. BIGHAM,  
*Commissioner of Statistics, Harrisburg, Pa.*

ABSTRACT of reports made to the Comptroller of the Currency, showing the condition of the National Banks in the State of Pennsylvania, at the close of business on Friday, the 2d day of October, 1874.

## RESOURCES.

Loans and discounts.....	\$47,613,432 10
Overdrafts.....	271,849 41
United States bonds, to secure circulation.....	26,449,300 00
United States bonds, to secure deposits.....	710,000 00
United States bonds on hand.....	546,100 00
Other stocks, bonds and mortgages.....	2,071,322 55
Due from redeeming and reserve agents.....	4,239,534 02
Due from other National banks.....	1,286,824 13
Due from State banks and bankers.....	972,187 69
Real estate, furniture and fixtures.....	2,075,941 79
Current expenses.....	483,313 57
Premiums paid.....	403,410 38
Checks and other cash items.....	519,985 77
Bills of other National banks.....	834,807 00
Bills of State banks.....	1,759 00
Fractional currency.....	160,706 90
Specie.....	66,676 14
Legal tender notes.....	3,946,821 00
U. S. certificates of deposit for legal tender notes.....	40,000 00
Deposit with United States Treasurer.....	1,439,884 75
	<hr/>
	94,133,856 20

## APPENDIX.

## LIABILITIES.

Capital stock paid in.....	\$27,075,240 00
Surplus fund.....	7,374,302 18
Undivided profits.....	2,552,520 89
National bank notes outstanding.....	23,272,299 00
State bank notes outstanding.....	93,390 00
Dividends unpaid.....	84,668 02
Individual deposits.....	31,315,483 42
United States deposits.....	375,735 56
Deposits of United States disbursing officers.....	9,692 37
Due to National banks.....	1,302,375 41
Due to State banks and bankers.....	295,927 28
Notes and bills re-discounted.....	294,965 76
Bills payable.....	87,256 31
	<hr/>
	94,133,856 20
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Number of banks, 159.

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*ABSTRACT of the reports made to the Comptroller of the Currency, showing the condition of the National Banks in the city of Philadelphia, at the close of business on Friday, the 2d day of October, 1874.*

## RESOURCES.

Loans and discounts.....	\$47,893,261 13
Overdrafts.....	21,519 97
United States bonds, to secure circulation.....	13,668,200 00
United States bonds, to secure deposits.....	225,000 00
United States bonds on hand.....	321,300 00
Other stocks, bonds and mortgages.....	\$1,573,250 81
Due from redeeming and reserve agents.....	4,935,566 48
Due from other National banks.....	2,595,314 03
Due from State banks and bankers.....	669,605 20
Real estate, furniture and fixtures.....	2,328,346 88
Current expenses.....	556,196 81
Premiums paid.....	188,139 21
Checks and other cash items.....	388,918 56
Exchanges for clearing-house.....	6,723,983 25
Bills of other National banks.....	1,229,638 00
Bills of State banks.....	819 00



# CONDITION OF NATIONAL BANKS.

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Fractional currency.....	\$134,880 55
Specie.....	372,049 67
Legal tender notes.....	5,376,459 00
United States certificates of deposit for legal tender notes,	3,790,000 00
Deposit with United States Treasurer.....	698,968 00
	<hr/>
	93,691,416 55
	<hr/>

## LIABILITIES.

Capital stock paid in.....	\$16,935,000 00
Surplus fund.....	7,169,154 13
Undivided profits.....	1,922,460 62
National bank notes outstanding.....	11,722,725 00
State bank notes outstanding.....	42,491 00
Dividends unpaid.....	47,654 28
Individual deposits.....	46,734,450 55
United States deposits.....	150,792 51
Due to National banks.....	6,749,007 16
Due to State banks and bankers.....	2,215,049 26
Bills payable.....	2,632 04
	<hr/>
	93,691,416 55
	<hr/>

Number of banks, 29.

*ABSTRACT of reports made to the Comptroller of the Currency, showing the condition of the National Banks in the city of Pittsburg, at the close of business on Friday, the 2d day of October, 1874.*

## RESOURCES.

Loans and discounts.....	\$16,872,008 51
Overdrafts.....	107,153 99
United States bonds to secure circulation.....	7,558,500 00
United States bonds to secure deposits.....	50,000 00
United States bonds on hand.....	378,000 00
Other stocks, bonds and mortgages.....	123,930 60
Due from redeeming and reserve agents.....	1,549,885 18
Due from other National banks.....	572,065 53
Due from State banks and bankers.....	179,317 82
Real estate, furniture and fixtures.....	879,338 61
Current expenses.....	196,633 06
Premiums paid.....	62,361 22
Checks and other cash items.....	186,789 05

Exchanges for clearing-house .....	\$601,507 83
Bills of other National banks .....	479,749 00
Fractional currency .....	37,725 84
Specie .....	51,327 55
Legal tender notes .....	24,125 08
United States certificates of deposit for legal tender notes,	100,000 00
Deposit with United States Treasurer .....	443,750 00
	<hr/>
	32,842,551 79
	<hr/>

## LIABILITIES.

Capital stock paid in .....	\$9,000,000 00
Surplus fund .....	3,141,704 48
Undivided profits .....	683,422 38
National bank notes outstanding .....	6,508,968 00
State bank notes outstanding .....	16,524 00
Dividends unpaid .....	40,849 25
Individual deposits .....	11,103,088 06
United States deposits .....	45,000 00
Due to National banks .....	1,042,134 13
Due to State banks and bankers .....	1,248,533 81
Notes and bills re-discounted .....	12,327 68
	<hr/>
	32,842,551 79
	<hr/>

Number of banks, 16.

A book purporting to give the manufactures of Pennsylvania, puts down Pittsburg capital invested in glass, \$12,000,000 ; value of products, \$10,000,000 ; this, however, is a palpable exaggeration. The same book puts down Philadelphia glass production nearly the same as in the above table.

The census returns I suppose to be fully one-third below the aggregate production of our State, which would give a product as follows :

Establishments, 74 ; capital, \$3,284,874 : product, \$12,484,057.

I could give you the list of the glass houses of Pittsburg, but neither the capital or product in any detail of any one of them.

These establishments cover every variety of window glass, bottles, phials, flint and crystal glass in all forms, and at least two establishments for the manufacture of stained glass for churches and ornamental purposes. This is about as full as the returns in my office enables me to give.

Respectfully yours,

THOS. J. BIGHAM,

*Commissioner.*



## COAL PRODUCTION OF PENNSYLVANIA, 1874.

### I. ANTHRACITE.

	<i>Tons.</i>
Schuylkill .....	6,714,074
Lehigh.....	4,712,280
Wyoming.....	10,204,764
Total anthracite.....	<u>21,631,118</u>

### II. SEMI-BITUMINOUS.

Fall Brook coal company.....	258,192
Morris Run.....do.....	249,438
Blossburg.....do.....	255,086
M'Intyre.....do.....	138,907
Towanda.....do.....	215,572
Fall Creek.....do.....	21,281
Schrader.....do.....	100,219
Snow Shoe region.....	63,540
Clearfield region.....	703,170
Broad Top Mountain region.....	298,056
Total semi-bituminous.....	<u>2,303,461</u>

### III. BITUMINOUS.

Allegheny Mountain region.....	208,094
Penn and Westmoreland gas coal.....	911,371
Pennsylvania railroad (west) .....	533,777
South-Western Pennsylvania railroad.....	7,880
Western Pennsylvania railroad,.....	194,008
Pittsburg and Connellsville railroad.....	403,976
Monongahela navigation company.....	2,196,153
Little Saw Mill Run.....	89,676
Pittsburg, Cincinnati and St. Louis, (Pan-Handle,) .....	604,258
Pittsburg and Castle Shannon railroad.....	122,925
Pittsburg and Erie railroad.....	270,448
Pittsburg, Fort Wayne and Chicago railroad...	194,673
Allegheny Valley railroad.....	240,165
Pittsburg, Charleston and West Virginia railroad,	30,096
Pittsburg and Cleveland railroad.....	291,721

Keeling & Co., Pittsburg.....	147,546	
Wettingal & Gormley.....	11,877	
J. W. Carlin & Co.....	3,817	
Other local consumption in Pittsburg not carried by railroads.....	*50,000	
Johnstown, used in iron works.....	*200,000	
Philadelphia and Erie railroad.....	*200,000	
Mined from country pits and for manufacturing, such as furnaces and salt works, and not car- ried by railroads.....	300,000	
Used by railroads and not included in their re- ports of coal freights above.....	500,000	
Total bituminous.....		7,712,461

## IV. MERCER COUNTY BLOCK COAL.

Lawrence railroad, New Castle and Beaver rail- road, Jamestown and Franklin railroad, She- nango and Allegheny railroad, and used local- ly in iron manufacture, not in above report..	*500,000	
Total Anthracite.....		21,631,118
Semi-bituminous.....		2,303,461
Bituminous.....		7,712,461
Block.....		500,000
Total coal production of Pennsylvania.....		32,147,040

## V. BITUMINOUS—OTHER STATES.

The bituminous coal produced elsewhere may be summed up thus :

Cumberland (Md.) region.....	2,410,895	
St Louis region.....	725,369	
Tennessee region.....	81,948	
Kanawha region.....	140,217	
Alabama region.....	48,319	
Chicago region.....	784,950	
Pomeroy, Cannelton, Hocking Valley and various other places, estimated.....	1,000,000	
		5,191,698
Total coke production in Pennsylvania.....		1,624,379
		6,816,077

\*Estimated.

## THE ANTHRACITE PRODUCTION IN 1874.

[From the Engineering and Mining Journal.]

The production of anthracite coal this year has fallen but little short of that of last years', notwithstanding the great depression which existed in the iron and manufacturing trades that usually consume so large a portion of anthracite. The Schuylkill region suffered probably as much as the Wyoming, and the report of the Philadelphia and Reading railroad shows the falling off there to be but 3 per cent. The quantity of coal mined on the line of the Lehigh Valley railroad and that mined by the Pennsylvania coal company was about 100,000 tons more in each case than in the previous year. The Central railroad of New Jersey lost in tonnage about 107,000 tons; the Delaware, Lackawanna and Western railway the most, or 547,000 tons. The Delaware and Hudson canal company lost 355,000 tons. The Philadelphia and Reading lost about 3 per cent., or there were probably, in all, 1,000,000 tons less mined in 1874 than in 1873, which would make the production in 1873, 22,535,266 tons.

The quantity of coal mined on each of the several transporting companies' lines in 1874 was as follows:

THE PRODUCTION OF ANTHRACITE COAL FOR THE YEAR ENDING DECEMBER 31, 1874.

Tons of 2,240 lbs.

*Wyoming Region.*

	Tons.
Delaware and Hudson canal company.....	2,399,417
Delaware, Lackawanna and Western railroad.....	2,502,769
Pennsylvania coal company.....	1,338,663
Lehigh Valley railroad.....	940,987
Pennsylvania and New York railroad.....	57,596
Central railroad of New Jersey.....	1,519,590
Pennsylvania canal.....	321,374
Lackawanna and Bloomsburg, south.....	432,646
Sold and used at the mines.....	691,722

Total output of Wyoming region..... 10,204,764

*Lehigh Region.*

Lehigh Valley railroad.....	3,152,651
Central railroad of New Jersey.....	1,210,662
Danville, Hazleton and W. B. R. R.....	40,687
Sold and used at the mines.....	308,280

Total output of Lehigh region..... 4,712,280



*Schuylkill Region.*

	Tons.
Philadelphia and Reading railroad.....	5,370,300
Shamokin and Lykens Valley.....	904,536
Sold and used at the mines.....	439,238
Total output of Schuylkill region.....	6,714,074

*Sullivan Region.*

Sullivan and Erie railroad.....	33,896
Sold and used at the mines.....	2,372
Total output of Sullivan region.....	36,268

Total production of all the regions..... 21,667,386

STATEMENT of coal and coke tonnage forwarded by the Pennsylvania railroad, during 1874.

FROM	Anthracite. Tons, 2,000 lbs.	Bituminous. Tons, 2,000 lbs.	Coke. Tons, 2,000 lbs.
Anthracite.....	791,667		
Huntingdon and Broad Top.....		164,543	
Cumberland.....		74,332	
Snow Shoe.....		63,540	
Tyrone and Clearfield.....		644,680	849
Allegheny.....		208,094	118
West Pennsylvania railroad.....		194,008	46,169
South West Penn'a railroad.....		7,880	430,740
Gas coal.....		911,371	41,600
Pittsburg coal.....		445,532	68,478
Danville, Hazleton and Wilkes- barre railroad.....	105,970	875	
Lewisburg, Centre and Spruce Creek railroad.....	8,629	262	
	906,266	2,715,117	587,954

GEORGE M. TAYLOR,

*Auditor.*

Statement of coal tonnage forwarded by the Pennsylvania canal, during 1874.

Wyoming region.....	321,294 gross tons.
Shamokin region.....	51,121 "
Lykens Valley region.....	73,096 "
Allegheny and Broad Top.....	12,723 "
	458,234 "

W. CARLISLE, JR.,

*Auditor.*

## BROAD TOP SEMI-BITUMINOUS COAL TRADE.

STATEMENT exhibiting the amount of coal mined and sent to market in 1874, from the collieries of the Broad Top Semi-Bituminous coal region, with present facilities and estimated capacity for 1875, furnished by John Fulton, Mining Engineer.

NAME OF COLLIERY.	NAME OF PROPRIETOR.	NAME OF OPERATOR.	Tons net sent to market in 1874,	No. of miners at colliery.....	Number of other workmen.....	Number of miners' houses...	Galler's or rooms in work'g order	Average capacity in tons per day,	Estimated value of colliery improvements....
1. Coalmont.....	Chandler & Peabody	J. Whitehead & Co.	6,207.3	2	11	12	40	\$80,000	
2. Cumberland.....	H. and B. T. R. R. Co	do.	28.1		5	20	70	12,000	
3. Crawford.....	do.	do.	37,650	60	25	10	25	15,000	
4. Powelton.....	R. H. Powel & Co.	R. H. Powel & Co.	22,438.2	40	12	100	260	150,000	
5. Barnett.....	Orbison, Dorris & Co.	R. U. Jacobs & Co.	855.1			25	80	30,000	
6. Dudley slope.....	Wood & Bacon.	J. M. Bacon.	10,125.2	10	3	23	15	40,000	
7. Blair's.....	David Blair	do.	9,790.2	16	2	13	20	25,000	
8. Howe.....	do.	do.	20,563	35	3	15	50	10,000	
9. Moredale.....	Semi-Anthracite Co.	Reakirt, Bro. & Co.	18,077.1	37	3	36	100	20,000	
10. Fishers.....	Fishers & Miller.	Fishers & Miller.	18,157.3	47	4	17	125	25,000	
11. Carbon.....	Rathmell Wilson.	J. F. Mears.	2,670.2			6	27	150	25,000
12. Cook.....	Broad Top Improvement Co.	P. Ammerman	34,239.2	38	18	23	10	30	20,000
13. Mount Equity.....	Riddlesburg C. and I. Co.	Kemble C. and I. Co.				17	33	130	30,000
14. Duvall shaft.....	Rathmell Wilson.	do.				37	15	50	50,000
15. Cunard.....	R. B. Wigton.	R. B. Wighton	15,131.2	44	8	19	29	160	50,000
16. Mount Eagle.....	Reed, Wilson & Co	W. H. Piper	26,645.1	48	9	13	24	130	20,000
17. Scott shaft.....	Hon. John Scott.	William Scott				11	10	50	45,000
18. Edge Hill.....	Rathmell Wilson.	Dr. Jenkins.	490.1	2		24	50	200	40,000
19. Delaware.....	do.	do.				15	80	15	15,000
20. Alexis.....	Six Mile Run C. Co.	A. Gleason.	2,222.2			15	20	100	40,000
Cumberland coal over H. and B. T. R. R.			72,763.1						
Totals.....			298,056	377	91	338	505	1,905	742,000

## REPORT OF JOHN FULTON, M. E.,

ON THE COKING OF BROAD TOP COAL AND ITS CHEAPNESS IN COMPARISON WITH ANTHRACITE IN THE METALLURGY OF IRON.

The experience gathered in the past five years in making coke and in its use in blast furnaces, furnish much interesting data in regard to this very important industry.

Iron making at the Kemble furnaces began in 1869. The furnaces ran for four years with coke as fuel, made from the coal of the region as it came from the mines and coked in the bee-hive ovens.

The result of these four years' experience was not satisfactory. With good iron ores—the Juniata fossil ores, with coke well made from good clean coal—yet a pig iron was produced quite variable in character, and seldom attaining a grade which could reasonably be looked for.

Careful investigation, prior to the erection of these furnaces, eliminated the fact that the ores of the region would, with proper treatment in the furnaces, yield a superior pig iron. Hence, during the first three years, efforts were directed to procuring a good, pure coal, and in having it carefully mined, excluding all the impurities that could be reached in this way. Still, the working of the furnace was not as good as expected. The metal could be sold in a time of demand, but in a depressed market it was difficult to dispose of.

The furnace men charged the miners with sending out dirty coal, and the latter retorted that the former did not coke the coal properly, or failed in its right application in the furnace.

The very fact that the Kemble company were procuring a very superior clean coal for coking, prolonged the discovery of the real difficulty. Like all other discoveries it seemed so plain when once reached that the wonder was that the thought did not come to light sooner. *They required a purer and denser coke*

A year ago a coal washing apparatus was put in operation crushing the coal, thus disconnecting the slates and sulphur pyrites from it, and separating them in a further process of washing.

The coke made from this *washed coal* is dense, lustrous and sonorous. Its use in the furnace at once produced results both startling and gratifying.

The pig metal produced is totally unlike the former yield. It is open, granular, gray, soft metal, No. 2 foundry. The product of the unwashed coke was silvery, mottled, fine-grained, and tolerably hard.



Samples of the two qualities of pig metal present the most decisive argument on this question.

Thirty or forty pieces of this improved coke were submitted for thorough test and analysis at the Cambria iron works, at Johnstown, Pa., with the following results :

Carbon.....	89.28
Ash.....	9.66
Sulphur.....	1.06
	<hr/>
	100.00
	<hr/>

It was added, verbally, that the Broad Top coke, from washed coal, *"was equal to the best, and better than most of the Connellsville coke."*

It is not designed by this comparison to detract in the least from the well established good character of the Connellsville coke, but to respectfully, yet firmly, insist on the fact that, by the recent improvement in cleansing the Broad Top coal, we can make fully as good a quality of coke as the Connellsville.

In Mr. Britton's valuable circular to furnace proprietors, published in the "Engineering and Mining Journal" of June last, an analysis of a sample of Connellsville coke, composed of forty-nine different pieces, is given *"as a standard whereby the value of other cokes may be ascertained."*

Carbon.....	87.456
Ash.....	11.332
Sulphur.....	.693
Phosphoric acid.....	.029
Moisture.....	.490
	<hr/>
	100.00
	<hr/>

This position is further strengthened by the actual work in the Kemble furnaces at Riddlesburg.

The use of this purified coke in one furnace, fourteen by sixty feet, increased its yield from one hundred and forty tons to one hundred and eighty tons of pig iron a week, and permitting the blast pressure to be increased from three and a half to five and a half pounds per square inch.

The improvement in the *quality* of the pig metal has been carefully estimated at four dollars per ton.

A visit to these furnaces, and a brief examination of the unwashed coke pig iron with the washed coke pig iron, will convince any reasonable mind that a very decided improvement has been made in this important fuel.

The cost of Broad Top coke is a very important question in the present discussions of the furnace proprietors. Mr. Lauder, superintendent of the

Kemble furnaces, furnishes the following estimate of washed coke delivered in railroad cars :

1 $\frac{6}{10}$ tons of coal, at \$1 10 .....	\$1 76
Washing—net .....	13
Coking.....	60
Loading in railroad cars.....	15

One and three-quarters tons of coke smelt one ton of pig iron in the Kemble furnaces. This, at two dollars and forty-nine cents per ton, gives four dollars and thirty-six cents per ton of pig metal.

On this question of a cheap supply of excellent furnace fuel there appears to exist some want of correct information, or rather the vigorous thinking minds of the eastern furnace proprietors have not yet reached out of the anthracite circle of their operations.

In the discussion of this question, at the Philadelphia meeting of pig iron manufacturers, November 24th, Mr. Coleman said : "The trade of Mississippi Valley is in the hands of the bituminous pig iron men. The only way was to blow out, and thus force the coal men down. They would come down if the iron men stopped buying coal. It would not be long before men would find out good coke somewhere else than at Connellsville, where it could be transported cheaply to the east."

The whole scope of these pungent remarks foreshadow a movement that has been forced forward by the present condition of the pig iron manufacture—a searching analysis of the cost of production, with a view to its reduction in a permanent and reliable manner. This can be accomplished by many of the eastern furnaces in the zone between the line of true economy in the anthracite circle and the Broad Top coal field.

That a movement must take place in many of the anthracite furnaces is becoming more and more evident, as coke is manifesting its leading claim as destined to become the fuel in the metallurgy of iron.

Mr. Coleman's view of this is certainly far-seeing ; but it will only be repeating a period in the previous history of the pig iron manufacture when charcoal fuel had to be abandoned, owing to its increasing cost, and coal and coke used in its stead.

How soon this new movement from anthracite coal to coke will be initiated, cannot now be told. It is, however, only a question of time.

The excellent but limited supply (four hundred and seventy-two square miles) of anthracite coal will be reserved for its manifest purpose—domestic use—by an ever-widening circle of demand, with a somewhat increased price, and the present misapplication of it stopped—just as the former slashing down of the primeval forest was arrested when the charcoal period closed.

It requires one and three-quarters to two and one-quarter tons of anthracite coal to smelt one ton of pig iron, indicating an average of two tons of this coal to one ton of pig metal.

The cost of this coal is a very variable factor—its present average at the furnaces indicated previously as being outside of the economic circle of anthracite operations may be taken at five dollars per ton costing ten dollars for fuel for smelting one ton of pig iron.

On the other hand we have Broad Top coke costing four dollars and thirty-six cents per ton of pig iron—no appreciable difference in the fuels *but a difference in cost, in favor of coke, of five dollars and sixty-four cents* to go over to freights eastward.

Another fact appears very clear in this connection—the time is approaching when many of the anthracite pig iron manufacturers will have to cast about for coke.

How to do this so as to receive a cheap and thoroughly pure coke is a very important consideration. Evidently, to procure coke at a minimum cost, and to secure an uninterrupted supply, the furnace owners will be compelled to control and direct the whole operations of mining, washing and coking the coal.

They will, therefore, require to purchase the coal lands, and in such extent as to afford an ample supply for years to come.

The *quality* of the coal for *coke-making* in such purchases is of *prime importance*.

Many seams of coal of good quality, and well adapted for many purposes, are either totally or partially unfit for coking.

From the past five years' experience in coking the Broad Top coals, it has been shown that they are peculiarly suited for making a very superior coke.

The Broad Top coal-field, of eighty square miles, stands out eastward from the Alleghanies, inviting development by its geographical position *and superior type of coking coal*. This new industry, furnishing in its own field the indisputable testimony *that its coal, carefully mined and washed, produces a coke that is not surpassed in purity or calorific power by any other now manufactured*.

JOHN FULTON,  
*Mining Engineer.*

SAXTON, BEDFORD COUNTY, PA., }  
December 1, 1874. }





RECAPITULATION.

FROM	To B. & O. R. R.	To C. & O. Cl.	To Pa. R. R.	Local.	Total.
Cumberland and Pennsylvania railroad.....	1,259,771	631,882	67,216	36,033	1,994,902
Cumberland and branch road.....	109,227	135,182	455	4,443	249,307
Hampshire and Baltimore company, (West Virginia.).....	109,094	.....	.....	100	109,194
Virginia C. & I. company, and N. E. coal company.....	57,351	.....	.....	141	57,492
	1,535,443	767,064	67,671	40,717	2,410,895

62,972 tons gas coal shipped by canal during year.

## STATISTICS OF IRON AND COAL TRADES OF PITTSBURG FOR 1874.

[From the "American Manufacturer."]

We give below tables showing the actual amount of the various articles stated that have entered into consumption in the city of Pittsburgh and vicinity during the past year. It is not as complete as we desire, but it is correct as far as it goes, the figures, unless otherwise stated, being *Official*, furnished us by the officers of the roads. We have carefully avoided duplications, as well as including iron, ore, &c., that was received in the city and not intended for consumption here. For example, the Cambria Iron company receive large amounts of pig metal over the Cleveland and Pittsburgh road, which is re-shipped to Johnstown. This is not included in our tables. We should also state that the coal and coke via slackwater is not all nor the largest part of it consumed here, but we have no means of separating it.

## BITUMINOUS COAL, IN TONS OF 2,600 POUNDS.

	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Allegheny Valley.....	12,728	18,992 <sup>1</sup> / <sub>2</sub>	17,476 <sup>1</sup> / <sub>4</sub>	23,763 <sup>1</sup> / <sub>2</sub>	21,661 <sup>1</sup> / <sub>2</sub>	16,864 <sup>1</sup> / <sub>2</sub>	16,426 <sup>1</sup> / <sub>2</sub>	19,057 <sup>1</sup> / <sub>2</sub>	27,338 <sup>1</sup> / <sub>2</sub>	19,162 <sup>1</sup> / <sub>2</sub>	19,498 <sup>1</sup> / <sub>2</sub>	16,355 <sup>1</sup> / <sub>4</sub>	239,326 <sup>1</sup> / <sub>2</sub>
Castle Shannon.....	14,613 <sup>1</sup> / <sub>4</sub>	12,240	13,580	15,072 <sup>1</sup> / <sub>2</sub>	14,055 <sup>1</sup> / <sub>2</sub>	12,502 <sup>1</sup> / <sub>2</sub>	8,320 <sup>1</sup> / <sub>2</sub>	3,976 <sup>1</sup> / <sub>2</sub>	6,383 <sup>1</sup> / <sub>2</sub>	14,088 <sup>1</sup> / <sub>2</sub>	12,210 <sup>1</sup> / <sub>4</sub>	9,177 <sup>1</sup> / <sub>4</sub>	136,227 <sup>1</sup> / <sub>4</sub>
Connellsville.....	16,740	15,518	15,048	16,478	14,268	17,428	8,796	14,982	20,602	18,156	14,627	12,012	184,655
Pennsylvania railroad.....	27,529 <sup>1</sup> / <sub>4</sub>	28,049 <sup>1</sup> / <sub>4</sub>	29,160 <sup>1</sup> / <sub>2</sub>	27,760 <sup>1</sup> / <sub>2</sub>	37,310 <sup>1</sup> / <sub>2</sub>	44,446 <sup>1</sup> / <sub>2</sub>	39,897 <sup>1</sup> / <sub>2</sub>	44,437 <sup>1</sup> / <sub>2</sub>	50,540	39,575	24,261 <sup>1</sup> / <sub>2</sub>	24,576 <sup>1</sup> / <sub>2</sub>	417,544 <sup>1</sup> / <sub>4</sub>
Pittsburg, Charleston and Virginia..	532	835	1,518	1,497	1,556	1,837	2,855	3,069	5,259	5,249	2,519	3,361	375,000
Pittsburg, Cincinnati and St. Louis..													
Saw Mill Run railroad.....	14,981 <sup>1</sup> / <sub>2</sub>	16,630	13,887 <sup>1</sup> / <sub>2</sub>	11,402 <sup>1</sup> / <sub>2</sub>	4,452	3,249 <sup>1</sup> / <sub>2</sub>	4,359			2,710	7,889 <sup>1</sup> / <sub>2</sub>	8,076	87,637 <sup>1</sup> / <sub>2</sub>
West Penn railroad.....	9,200 <sup>1</sup> / <sub>4</sub>	10,130 <sup>1</sup> / <sub>4</sub>	9,909	9,359 <sup>1</sup> / <sub>4</sub>	8,023 <sup>1</sup> / <sub>4</sub>	5,726 <sup>1</sup> / <sub>4</sub>	7,484	9,237 <sup>1</sup> / <sub>2</sub>	10,037 <sup>1</sup> / <sub>2</sub>	10,364 <sup>1</sup> / <sub>2</sub>	8,413 <sup>1</sup> / <sub>2</sub>	3,291 <sup>1</sup> / <sub>2</sub>	101,178 <sup>1</sup> / <sub>2</sub>
Monongahela slack water.....	355,250 <sup>1</sup> / <sub>2</sub>	351,507 <sup>1</sup> / <sub>2</sub>	376,055 <sup>1</sup> / <sub>2</sub>	379,490 <sup>1</sup> / <sub>4</sub>	213,434 <sup>1</sup> / <sub>2</sub>	64,413 <sup>1</sup> / <sub>2</sub>	59,086 <sup>1</sup> / <sub>4</sub>	35,792 <sup>1</sup> / <sub>4</sub>	42,168 <sup>1</sup> / <sub>2</sub>	54,157 <sup>1</sup> / <sub>2</sub>	208,502 <sup>1</sup> / <sub>2</sub>	363,644 <sup>1</sup> / <sub>4</sub>	2,503,504 <sup>1</sup> / <sub>2</sub>
Not otherwise reported, (estimate) ..													173,291
Total .....													4,208,365 <sup>1</sup> / <sub>2</sub>





## MUCK AND PUDDLE BAR, BLOOMS AND BILLETS, IN TONS OF 2,000 POUNDS.

	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Allegheny Valley Railroad.....	123	134 $\frac{1}{2}$	61	94 $\frac{1}{2}$	104	93 $\frac{1}{2}$	142	.....	123	39 $\frac{3}{4}$	45 $\frac{1}{4}$	97 $\frac{1}{4}$	1,057 $\frac{3}{4}$
Pennsylvania railroad, (blooms) .....	43	100	110	160	200	100	250	90	33	12	80	158	1,335
Connellsville railroad, (muck) .....													
Pittsburg, Cincinnati and St. Louis.* .....													
Pittsburg, Fort Wayne and Chicago.....													
Allegheny Station P., Ft. W. & C. R. R. (muck bar) .....								49 $\frac{3}{4}$	470 $\frac{1}{2}$	257 $\frac{1}{2}$			777 $\frac{3}{4}$
Allegheny Station P., F. W. & C. R. R. (blooms) .....													
Total .....													3,170 $\frac{1}{2}$

## IRON ORE IN TONS OF 2,000 POUNDS.

	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Allegheny Valley .....	110	241 $\frac{1}{4}$	10	112 $\frac{3}{4}$	560	127 $\frac{1}{4}$	344 $\frac{1}{2}$	.....	.....	210	160	80	1,952 $\frac{3}{4}$
Cleveland and Pittsburg, (City) .....	9,234	6,482	8,740	10,503	3,461	9,267	10,524	11,126	6,020	7,170	4,698	5,085	92,310
Cleveland and Pittsburg, (Allegheny Station) .....	2,599 $\frac{1}{2}$	3,552 $\frac{1}{4}$	5,659 $\frac{3}{4}$	4,786 $\frac{3}{4}$	3,907 $\frac{1}{4}$	4,712 $\frac{1}{2}$	4,435 $\frac{1}{4}$	4,467 $\frac{3}{4}$	3,503 $\frac{3}{4}$	3,269 $\frac{3}{4}$	3,427 $\frac{3}{4}$	3,591 $\frac{1}{4}$	47,904
Cleveland and Pittsburg, (Manchester) .....	3,432 $\frac{3}{4}$	7,177 $\frac{3}{4}$	8,679 $\frac{1}{4}$	8,217 $\frac{3}{4}$	5,738 $\frac{3}{4}$	6,796 $\frac{1}{4}$	5,391 $\frac{1}{4}$	5,374 $\frac{3}{4}$	1,377 $\frac{3}{4}$	1,439 $\frac{3}{4}$	436 $\frac{3}{4}$	2,643 $\frac{3}{4}$	56,707
Connellsville .....	600	744	706	935	412	120	480	1,030	1,430	340	490		7,287
Pennsylvania railroad .....				52	130		20	10			200		412
Pittsburg, Cincinnati and St. Louis.....													
Pittsburg, Ft. Wayne and Chicago, (Allegheny,) .....		587 $\frac{1}{4}$	1,367 $\frac{3}{4}$	1,152 $\frac{3}{4}$	754 $\frac{1}{4}$	397 $\frac{1}{4}$	439 $\frac{1}{2}$	480 $\frac{1}{2}$	4,220	1,043 $\frac{1}{4}$			10,442 $\frac{3}{4}$
Pittsburg, Ft. Wayne and Chicago, (City) .....		731	1,451	1,451	656	817	2,150	7,519	5,085	2,236	785	731	23,612
River .....													30,000
Total .....													270,630 $\frac{1}{2}$

# YIELD OF MINES AND FURNACES OF THE LAKE SUPERIOR DISTRICT.

We copy from the *Mining Journal* the following statement, in gross tons, of the aggregate yield of the mines and blast furnaces of the Lake Superior iron district from 1856 to 1874, inclusive, together with the value of the same :

Year.	Iron ore.	Pig iron.	Ore and pig iron.	Value.
1856.....	7,000	.....	7,000	\$28,000
1857.....	21,000	.....	21,000	63,000
1858.....	31,095	1,629	32,664	249,202
1859.....	65,679	7,258	72,937	575,529
1860.....	116,908	5,660	122,568	736,496
1861.....	45,430	7,970	53,400	419,501
1862.....	115,721	8,590	124,311	984,977
1863.....	185,257	9,813	195,070	1,416,935
1864.....	235,123	13,832	248,955	1,867,215
1865.....	196,256	12,283	208,539	1,590,430
1866.....	296,972	18,537	315,409	2,405,960
1867.....	466,076	30,911	496,987	3,475,820
1868.....	507,813	38,246	546,059	3,992,413
1869.....	633,238	39,003	672,241	4,968,435
1870.....	856,471	49,298	905,769	6,300,170
1871.....	813,379	51,225	864,604	6,115,895
1872.....	952,055	63,195	1,015,250	9,188,055
1873.....	1,167,379	71,507	1,238,886	11,395,887
1874.....	935,488	90,494	1,025,982	7,592,811
Total .....	7,648,280	519,351	8,167,631	63,366,731



# OFFICIAL OIL RETURNS.

TABLE of returns from parties engaged in the storage and transportation of petroleum oil for the quarter ending September 30, 1874, and December 31, 1874, made pursuant to act of 15th May, A. D. 1874, to the Bureau of Statistics of the State of Pennsylvania.

COMPANIES.	POST OFFICE.	Quarter ending Sept. 30—bar'l's, (42 gallons.)	Quarter ending Dec. 31—bar'l's, (42 gallons.)
American transfer company.....	St. Petersburg.....	135,939.61	138,832.92
Antwerp pipe company.....	St. Petersburg.....	116,848.18	
Church Run pipe company.....	Titusville.....	9,562.68	6,288.29
Charley Run pipe company.....	Oil City.....	8,352.00	3,706.00
Cherry Tree Run pipe line.....			15,278.46
Delaware River storage company.....	112 Walnut street, Philadelphia,	*126,986.00	33,091.00
Franklin pipe line.....	Franklin.....	9,169.39	9,801.16
Grant pipe company.....	Parker.....	154,087.24	137,684.73
Karns pipe line.....	Parker.....	253,572.41	186,006.65
Milton pipe line.....			10,367.65
Munhall, John & Co.....	Oil City.....	52,471.00	
New York and Allegheny oil company.....	Tidioute.....	19,911.79	
New York pipe company.....	Titusville.....	41,093.01	34,810.79
Octave oil company.....	Titusville.....	17,629.92	
Oil City pipe company.....	St. Petersburg.....	78,885.86	74,285.49
Pennsylvania transportation company.....	Titusville.....	145,979.03	137,858.98
Prentice, F. & Co.....	Coal City.....	23,340.00	4,682.00
Rochester and Oleopolis.....	Oil City.....	33,856.33	23,823.87
Relief pipe line company.....	Millerstown.....	198,189.46	250,007.62
Shaffer Run pipe company.....	Oil City.....	37,712.00	27,555.00
Sage Run pipe line.....	Oil City.....	16,992.33	5,749.26
Sandy pipe line.....			36,428.26
Smith's Ferry and Island Run oil and transportation company.....	Beaver county.....	10,433.13	6,278.60
Tidioute oil pipe company.....	Tidioute.....	30,216.45	23,493.00
Titusville pipe company.....	Titusville.....	37,899.92	23,191.91
Taft & Payne pipe company.....	Franklin.....	18,665.24	17,307.63
Union pipe company.....	Parker.....	783,697.25	411,332.31
United pipe lines.....		819,331.91	647,111.19
Vandergrift, Formon & Co.'s pipe line.....	Oil City.....	69,081.84	
Total.....		3,202,057.61	2,241,479.77

\*Refined.

## PITTSBURG HOMES AND HOUSES.

NUMBER AND VALUE OF BUILDINGS ERECTED DURING THE YEAR 1874. DECREASE  
FROM PREVIOUS YEAR.

The number and value of buildings erected in the city of Pittsburg during the year ending December 31, 1874, is about two hundred less than in the previous year, as follows, viz :

WARDS.	Number of buildings	Value.....	WARDS.	Number of buildings	Value.....
First.....	4	\$84,500	Twenty-first.....	36	70,900
Second.....	8	83,100	Twenty-second.....	12	44,900
Third.....	3	8,000	Twenty-third.....	22	54,100
Fourth.....	7	23,700	Twenty-fourth.....	4	8,400
Fifth.....	17	69,100	Twenty-fifth.....	22	92,300
Sixth.....	38	72,900	Twenty-sixth.....	12	30,400
Seventh.....	8	44,300	Twenty-seventh.....	12	23,700
Eighth.....	22	68,700	Twenty-eighth.....	3	7,300
Ninth.....	2	1,800	Twenty-ninth.....	5	46,300
Tenth.....	2	2,600	Thirtieth.....	3	3,300
Eleventh.....	54	150,500	Thirty-first.....	12	16,200
Twelfth.....	15	40,800	Thirty-second.....	32	55,100
Thirteenth.....	28	37,300	Thirty-third.....	2	4,000
Fourteenth.....	45	219,900	Thirty-fourth.....	13	27,100
Fifteenth.....	21	55,500	Thirty-fifth.....	5	4,500
Sixteenth.....	52	117,300	Thirty-six.....	18	63,600
Seventeenth.....	66	134,400	Thirty-seventh.....	30	36,600
Eighteenth.....	56	76,000			
Nineteenth.....	35	74,600	Totals.....	775	2,157,700
Twentieth.....	49	154,000			

Of the above buildings 439 were bricks, and 301 frames; 35 were additions and alterations. During the year, eight buildings were condemned and taken down; six chimneys and eleven fire-walls were also condemned and repaired. The receipts of the office for the year were \$3,124, which have been paid into the city treasury.

# FAILURES IN 1874

The statistics contained herein have been prepared and compiled with great care, and their reliability may be depended upon. What they present may in truth be regarded as actual ascertained *facts*, with nothing of conjecture or inference about them.

In the figures presented some anomalies are apparent which it would be difficult to account for under any general rule, and we leave them to the ingenuity of our readers. No doubt the causes in some instances are so purely local as to make it uninteresting to the general reader to attempt to trace them; as for example, why the number of failures should be greater in 1874 than in 1873 in States like Connecticut, Indiana, Maine, Massachusetts, New Jersey, Pennsylvania, &c., &c., and less in Alabama, Mississippi, Missouri, North Carolina, &c., &c. Without further introduction or speculation; however, we submit the figures, giving in juxtaposition corresponding return for years 1871, 1872 and 1873.

## FAILURES FOR 1873 AND 1874.

STATES.	No. of Fail's.	1874.	No. of Fail's.	1873.
		Amount of Liabilities.		Amount. of Liabilities.
Alabama.....	48	\$963,000	52	\$1,337,000
Arkansas.....	22	406,000	17	307,000
California.....	68	2,571,000	70	1,500,000
Connecticut.....	151	2,286,000	104	1,452,000
Delaware.....	27	578,000	31	663,000
District of Columbia.....	18	256,000	13	240,000
Florida.....	14	293,000	10	258,000
Georgia.....	118	1,845,000	67	2,113,000
Illinois.....	332	7,510,000	329	7,109,000
Indiana.....	167	2,397,000	134	2,260,000
Iowa.....	144	2,034,000	141	1,917,000
Kansas.....	94	988,000	94	821,000
Kentucky.....	167	1,879,000	125	2,287,000
Louisiana.....	99	4,429,000	74	2,831,000
Maine.....	84	1,663,000	80	752,000
Maryland.....	110	1,691,000	63	1,229,000
Massachusetts.....	416	10,600,000	309	11,224,000
Michigan.....	286	4,477,000	248	3,917,000
Minnesota.....	60	1,029,000	61	944,000
Mississippi.....	66	1,555,000	79	909,000
Missouri.....	175	3,061,000	188	5,987,000
Nebraska.....	42	521,000	22	311,000
New Hampshire.....	32	266,000	27	513,000
New Jersey.....	146	3,854,000	119	2,482,000
New York.....	573	10,295,000	544	13,721,000
New York City.....	645	32,580,000	644	92,635,000
North Carolina.....	56	542,000	63	672,000
Ohio.....	343	8,481,000	331	11,320,000



STATES.	1874.		1874.	
	No. of Fail's.	Amount of Liabilities.	No. of Fail's.	Amount of Liabilities.
PENNSYLVANIA.....	644	34,774,000	576	31,445,000
Rhode Island.....	71	1,250,000	58	15,259,000
South Carolina.....	61	1,531,000	36	1,927,000
Tennessee.....	94	1,585,000	77	1,636,000
Territories.....	67	969,000	44	868,000
Texas.....	142	2,201,000	116	1,251,000
Vermont.....	36	380,000	21	370,000
Virginia and West Virginia.....	111	1,514,000	125	2,188,000
Wisconsin.....	101	2,575,000	81	1,574,000
Total.....	5,880	155,239,000	5,183	228,499,000

## FAILURES FOR 1871 AND 1872.

STATES.	1872.		1871.	
	Number of failures.	Amount of Liabilities.	Number of failures.	Amount of Liabilities.
Alabama.....	75	\$1,501,000	26	\$525,000
Arkansas.....	20	217,000	15	95,000
California.....	80	2,434,000	89	4,279,000
Connecticut.....	70	2,370,000	77	3,915,000
Delaware.....	20	189,000	11	208,000
District of Columbia.....	8	59,000	9	158,000
Florida.....	15	179,000	2	11,000
Georgia.....	73	1,293,000	42	964,000
Illinois.....	185	11,470,000	172	5,820,000
Indiana.....	80	991,000	60	860,000
Iowa.....	81	876,000	69	797,000
Kansas.....	90	860,000	58	790,000
Kentucky.....	99	2,059,000	80	1,163,000
Louisiana.....	85	3,100,000	45	2,437,000
Maine.....	90	1,072,000	81	1,420,000
Maryland.....	75	5,045,000	61	1,194,000
Massachusetts.....	353	25,374,000	210	8,241,000
Michigan.....	175	2,720,000	125	1,521,000
Minnesota.....	43	407,000	37	471,000
Mississippi.....	53	591,000	30	355,000
Missouri.....	175	2,670,000	99	1,995,000
Nebraska.....	17	201,000	11	251,000
New Hampshire.....	37	447,000	21	129,000
New Jersey.....	126	2,036,000	72	597,000
New York.....	423	8,417,000	321	9,051,000
New York city.....	385	20,684,000	324	20,740,000
North Carolina.....	30	282,000	35	390,000
Ohio.....	226	6,569,000	189	4,077,000
PENNSYLVANIA.....	445	9,422,000	357	7,110,000
Rhode Island.....	40	1,179,000	21	303,000
South Carolina.....	40	801,000	30	801,000
Tennessee.....	56	1,438,000	42	369,000
Territories.....	15	252,000		
Texas.....	75	860,000	38	673,000
Vermont.....	30	229,000	25	282,000
Virginia and West Virginia.....	103	1,335,000	76	1,722,000
Wisconsin.....	66	1,127,000	61	386,000
Total.....	4,069	121,056,000	2,915	85,252,000

The noticeable feature in the above is that, while the number of failures exceeds that of last year, there is a marked diminution in the *amount of liabilities*. Two causes are assignable for this, viz.: First, that the panic of 1873 caused the failure of an unusual number of large houses, thus raising very much the average amount of liabilities over *all* previous years. Second, that the volume of business had been greatly diminished during 1874, so that when failures did occur, the liabilities were comparatively light; and, further, that the houses which succumbed during the year were in a great degree a smaller class of traders than those of 1873, and, indeed, we may add, than the average of those of several preceding years.

FAILURES—1857 TO 1874—UNITED STATES.

	No.	Amount.		No.	Amount.
1857.....	4,032	\$291,750,000	1868.....	2,608	\$63,774,000
1858.....	4,225	95,749,000	1869.....	2,799	75,054,000
1859.....	3,913	64,394,000	1870.....	3,551	88,242,000
1860.....	3,676	79,807,000	1871.....	2,915	85,252,000
1861.....	6,993	207,210,000	1872.....	4,069	121,056,000
1862.....	1,652	23,049,300	1873.....	5,183	228,499,000
1863.....	485	6,864,700	1874.....	5,830	155,239,000

## AGGREGATE STEAM POWER OF THE WORLD.

Dr. Engel, director of the Prussian Statistical Bureau, has been making estimates, on such statistical data as is available, of the total horse power of steam engines in the world. As every country has tolerably correct railroad statistics, Dr. Engel thinks that the following returns with reference to locomotives is not far from right:

	Year.	Number.		Year.	Number.
United States.....	1873	14,223	Holland.....	1872	331
Great Britain.....	1872	10,933	Belgium.....	1870	371
Zollverein.....	1871	5,927	Switzerland.....	1868	225
Russia.....	1873	2,684	Egypt.....	1870	212
Austria.....	1873	2,369	Sweden.....	1872	185
Hungary.....	1869	506	Denmark.....	1865	39
France.....	1869	4,933	Norway.....	1871	34
East Indies.....	1872	1,323			
Italy.....	1872	1,172	Total.....		45,467

It may be assumed that there are still four or five thousand additional locomotives in countries from which no statistics have been received, so that something like fifty thousand engines of that description, of an aggregate of 10,000,000 horse power are now in use. Dr. Engel estimates all the engines in use—locomotives, marine, and stationary at about 14,400,000 horse power.

Assuming that the above statistics are approximately correct, it would appear that one-third of all the steam engines and steam power in the world are employed in the United States. This will, in some degree, account for the extraordinary industrial progress of this country and the high rank it maintains in all departments of practical engineering. The population of the United States is 40,000,000, while the aggregate population of the other countries above named exceeds 350,000,000.



PART II.



REPORT ON LABOR.



	81	1,212	14.9	1,669 66	8	580 10	44.9	5,548 24	29.1	43.9
Hats and caps.....	76	2,516	33.5	3,133 30	10	508 85	53.8	5,662 47	18.2	14.5
Hosiery.....	923	47,483	51.4	3,733 72	8	544 32	59.4	6,871 28	14.6	7.8
Iron, (all kinds grouped).....	77	737	7.8	1,338 33	10	562 65	40.2	4,250 61	31.8	34.2
Jewelry.....	1,495	6,729	4.5	542 23	10	384 55	32.	2,173 19	21.2	21.2
Liquors, (all kinds grouped).....	356	2,097	5.9	1,736 09	10	473 70	16.1	9,709 57	55.9	33.3
Looking glass and picture frames.....	47	598	12.7	1,881 74	10	535 88	46.9	3,666 35	31.8	29.5
Lumber, (all kinds grouped).....	3,922	19,136	4.9	414 08	10	324 72	38.3	1,395 37	33.7	19.7
Machinery, (all kinds grouped).....	477	17,439	36.5	1,977 98	6	570 79	63.3	4,228 17	12.7	7.9
Marble.....	308	2,645	8.6	915 02	10	520 88	48.9	2,111 73	23.1	21.1
Masonry.....	272	1,206	4.4	239 81	10	295 24	54.6	417 54	17.4	85.6
Millinery.....	238	492	32.8	231 30	10	405 92	36.3	826 29	35.7	37.2
Molasses, (all kinds grouped).....	41	1,345	2.8	5,679 41	10	495 95	28.7	24,622 14	43.3	17.9
Painting.....	403	1,763	4.4	384 05	10	428 92	48.8	888 81	23.2	52.3
Paints.....	36	727	20.2	4,029 52	8	498 48	20.	27,202 06	54.	32.1
Paper.....	78	1,597	20.2	2,987 43	10	469 09	32.	11,988 33	40.	19.4
Plastering.....	106	496	3.8	333 93	10	407 61	57.1	1,497 03	14.9	53.5
Printing cotton goods, &c.....	218	1,098	5.	549 96	10	445 17	40.7	1,720 86	31.3	43.5
Do.....books, newspapers, &c., publishing.....	7	669	95.6	9,896 78	6	528 22	30.6	74,876 32	45.4	30.9
Roofing materials.....	307	4,776	15.5	2,796 78	10	669 10	37.6	9,493 00	34.4	27.3
Sash, windows, doors, &c.....	58	907	15.6	1,228 05	10	440 91	56.2	1,945 59	15.8	8.2
Saws.....	204	2,689	13.1	1,441 04	10	534 60	48.9	3,228 76	23.1	19.3
Ship-building.....	106	633	57.5	3,820 36	6	724 29	65.7	6,529 68	10.3	7.7
Silk goods.....	10	2,161	21.3	1,013 11	6	492 95	59.5	2,783 16	16.5	18.9
Soap and candles.....	96	489	48.9	4,283 00	6	667 48	45.7	21,614 57	30.3	35.1
Steel, Bessemer—cast, forged and springs.....	28	667	6.9	1,444 90	10	451 79	21.8	7,264 28	50.2	32.8
Stereotyping and electrotyping.....	11	1,979	70.7	12,260 88	10	668 58	38.5	41,923 56	33.5	21.7
Stone and earthenware.....	198	497	45.2	5,850 45	10	645 74	49.9	13,856 54	22.1	15.1
Tin, copper and sheet-iron ware.....	974	1,262	6.4	568 15	10	355 24	39.9	1,826 47	32.1	24.4
Tobacco, cigars.....	975	3,420	3.5	296 51	10	352 71	41.8	896 43	30.2	27.2
Umbrellas and canes.....	27	4,564	4.7	3,337 86	10	319 97	44.3	934 82	27.7	46.3
Upholstery.....	95	653	24.2	3,695 80	10	525 66	34.4	13,896 49	37.6	36.8
Wood, turned, carved, and work miscellaneous.....	164	516	5.4	734 58	10	411 17	30.4	3,055 68	41.6	42.2
Woolen goods.....	403	951	5.8	539 23	10	401 12	43.1	1,556 44	28.9	39.2
Worsted goods.....	31	7,992	19.8	2,490 33	10	543 05	43.3	7,161 01	28.7	20.5
		2,168	69.9	5,709 86	6	628 84	46.2	28,346 46	29.8	26.2
Totals and general averages.....	29,249	246,015	.....	.....	9.8	473 12	40.9	2,379 10	31.3	28.5



It will be observed that in this table we base all our calculations upon the amount produced in the occupations given, in the time for which the returns are made. Therefore, the cost of materials are deducted from the total product, and the percentages are calculated upon the remainder. The 18 per cent. discounts are also calculated upon this remainder, rather than upon the capital, because for obvious reasons we believe it represents more nearly the average volume of the line of discounts as demonstrated from the data already referred to. The proportions given as the result of the calculations are big with significance as bearing upon the subject we are discussing. Of the products of industry for the year, it is thus seen that leaving the 9.8 per cent. allowance for incidental expenses out of the account, 246,015 workingmen receive 40.9 per cent.; while 29,249 establishments where labor is employed receive 31.3 per cent.; while capital in its various forms, as of profit on money invested, 28.5 per cent., and discounts on business paper, rendered necessary to the business man by that dealing in currency as a commodity which we have been deprecating, 18 per cent. Showing, as the share capital receives out of the rewards, or product of industry, 46.5 per cent. We have already given the estimated number of of those who deal in money in the State at two thousand. Let any fair minded thinker contemplate these results even for a few moments; not with a view to find some captious, hypocritical plea upon which to pooh! pooh! them out of sight because they are unpleasant; but honestly and bravely, with a resolve to fathom the real truth and courage to confront it, and see if he does not feel in all their ghastly insincerity the wretched twaddle and driveling fatuity of the manner in which questions of finance are discussed from President's messages down through all the grades of the tenders to the money kings, even to the journals that will shout *poëans* in honor of cent per cent. Shylocks for the small patronage of a twenty dollar a year advertisement.

But the wretched failure to secure equitable distribution, through the kind of legislation inspired by the theories that prevail over common sense, among those whose opinions control the character of that legislation, and still stronger demonstration of the truth of our position, is found if we remove from the foregoing tables, those occupations in which the very large incomes and small proportionate percentage of profits on capital invested, show the possession in the operators of capital in sufficient amounts either as corporations or wealthy firms, to place them generally above the necessity of borrowing at usurious rates. A glance over the table will show to any one which these are, and their elimination from the table leaves as the average incomes of the remaining establishments about \$1,900 per year.

But it is needless and would be useless to extend the illustration of the manner in which the rewards of industry are distributed further.

Those who have sufficient sincerity to desire, and sufficient courage to seek, a solution of the problem of social reform, who are not so wedded to the leadership of the money kings that they are unwilling even to inquire whether change is needed, will find sufficient as it is to aid them in their inquiries. As for the rest, were the subject held before them, arrayed in the clearness of a sun-beam, they would not see it nor look at it; but, ostrich like, hiding their heads under the bush of ignorant and insolent prejudice, imagine their ungainly bodies are also hidden from the retribution that nothing can shield them from but the greater wisdom and self-sacrifice of their truer and braver compeers.

We will only note that if it is a just, normal and healthy distribution that gives to the actual creators of wealth who are beyond doubt the workers, average incomes of \$473 12; to their employers, who are next in usefulness, five times as much, or \$2,379 10; to the money dealers, who are of no use at all, fifty-eight times as much, or \$27,460 47. If, we say, this is a healthy distribution, calculated to secure the permanent peace, happiness and progress of the nation, we should go on as we are. If it is not, the sooner the leaders of public opinion quit their twaddling, cease to re-echo the misleading platitudes that are vented as financial wisdom in the selfish and conscienceless circles of the money dealers, and make an honest effort to find a real remedy, swift, sure and conclusive, the better for themselves, the country and humanity.

## DISTRIBUTION OF REWARDS OF INDUSTRY.

COMPILATION from the census, showing the data upon which the foregoing table of distribution is based.

	Estab- lish- ments.	Hands.	Capital.	Wages.	Material.	Product.
Agricultural implements.....	286	2, 261	\$3, 387, 949	\$1, 025, 618	\$1, 278, 805	\$3, 652, 295
Bleaching and dying.....	79	733	1, 212, 800	352, 887	6, 087, 364	7, 285, 114
Book binding.....	91	1, 246	1, 640, 807	674, 254	1, 919, 981	3, 588, 623
Boots and shoes.....	3, 949	13, 966	6, 373, 943	4, 818, 902	6, 932, 726	16, 846, 310
Boxes—cigar, packing, paper and wooden.....	104	794	447, 360	358, 800	597, 574	1, 413, 743
Brass—foundry, finishing, rolled and ware.....	68	848	2, 205, 985	425, 140	1, 157, 622	2, 144, 055
Bread, crackers and other bakery products.....	809	2, 364	1, 920, 290	783, 411	3, 195, 678	5, 597, 291
Brick.....	458	6, 637	4, 559, 783	2, 337, 691	1, 530, 527	6, 071, 209
Brushes.....	61	490	436, 864	180, 293	296, 717	628, 827
Carpentering and building.....	1, 846	10, 470	7, 671, 351	5, 335, 181	13, 772, 286	27, 336, 490
Carpets—rag and other.....	396	4, 554	3, 195, 474	1, 933, 582	5, 866, 827	10, 218, 621
Carriages, wagons.....	1, 449	6, 217	2, 229, 441	2, 229, 441	2, 111, 361	6, 082, 302
Cars—freight and passenger.....	49	4, 005	3, 763, 804	2, 193, 857	5, 832, 736	9, 288, 041
Clothing—men's, women's and children's.....	1, 538	11, 647	10, 378, 443	5, 040, 272	12, 822, 465	23, 363, 156
Coal oil, rectified.....	89	940	4, 006, 433	638, 583	12, 345, 899	15, 251, 223
Confectionery.....	268	928	1, 130, 905	390, 535	1, 195, 851	2, 491, 332
Cooperage.....	474	2, 199	1, 084, 385	945, 437	1, 502, 537	3, 209, 470
Cotton goods, all kinds grouped.....	143	6, 841	12, 575, 821	3, 510, 534	10, 749, 472	17, 565, 028
Drugs and chemicals.....	82	1, 633	6, 060, 300	826, 637	5, 346, 834	8, 451, 991
Edge tools and axes.....	20	599	742, 500	384, 144	398, 695	330, 723
Flouring and grist mill products.....	2, 985	6, 409	20, 393, 620	1, 278, 146	41, 763, 255	49, 476, 245
Furniture—all kinds grouped.....	948	5, 534	5, 005, 053	2, 430, 868	2, 826, 060	8, 082, 530
Gas.....	43	1, 583	11, 338, 450	1, 236, 769	1, 491, 285	4, 113, 347
Gasometers and lamps and lamp fixtures.....	10	876	1, 164, 894	447, 984	479, 447	1, 271, 783
Glass—cut, stained, ware and window.....	58	4, 958	6, 471, 416	3, 544, 570	2, 371, 128	8, 422, 805
Hardware and saddlery hardware.....	87	1, 004	1, 120, 920	490, 312	810, 206	1, 777, 285
Hats and caps.....	81	1, 212	1, 035, 663	703, 088	1, 248, 231	2, 813, 766
Hosiery.....	76	2, 516	2, 979, 000	1, 280, 270	2, 925, 323	5, 306, 738
Iron—all kinds grouped.....	923	47, 483	81, 441, 752	25, 846, 238	85, 891, 142	129, 388, 995
Jewelry (not specified) and instrument cases.....	77	737	956, 600	414, 677	734, 212	1, 764, 731
Leather—tanned, curried, morocco tanned and curried, and dressed skins.....	1, 495	6, 729	15, 317, 815	2, 587, 699	20, 793, 080	28, 899, 496
Liquors—distilled, malt and vinous.....	356	2, 097	9, 571, 253	993, 354	5, 512, 023	11, 692, 528
Looking glass and picture frames.....	47	598	582, 500	320, 458	456, 548	1, 140, 973
Lumber—planed, sawed and staves and shooks.....	3, 922	19, 156	27, 802, 710	6, 220, 393	19, 022, 221	35, 262, 590
Machinery (not specified) cotton and woolen, railroad repair- ing, steam engines, &c.....	477	17, 439	26, 068, 125	9, 944, 130	13, 533, 193	29, 258, 153



Marble and stone-work (not specified)—monuments, &c.....	308	2, 645	3, 070, 910	1, 377, 739	2, 025, 084	4, 843, 302
Millinery.....	238	1, 492	528, 590	199, 712	451, 413	1, 001, 925
Mollasses, syrups and sugar, refined.....	41	1, 345	5, 635, 310	667, 057	24, 433, 614	26, 762, 176
Painting.....	403	1, 763	688, 945	756, 197	847, 945	2, 395, 704
Paints (not specified) lead and zinc.....	86	727	3, 048, 250	362, 396	2, 811, 711	4, 624, 779
Paper (not specified)—printing, wrapping and writing.....	78	1, 597	4, 814, 040	749, 138	3, 287, 741	5, 626, 946
Plastering.....	106	496	98, 385	202, 174	159, 564	513, 535
Plumbing and gas fitting.....	218	1, 098	860, 842	488, 799	934, 293	2, 133, 220
Printing, cotton and woolen goods.....	7	669	1, 695, 000	353, 380	4, 953, 960	6, 113, 584
Printing and publishing (not specified)—book, newspaper and job printing.....	307	4, 776	10, 668, 492	3, 195, 649	4, 996, 523	13, 482, 649
Roofing materials.....	58	967	1, 382, 450	399, 911	300, 385	1, 012, 657
Sash, doors and blinds.....	204	2, 689	3, 514, 410	1, 437, 546	2, 971, 930	5, 911, 671
Saws.....	11	683	930, 500	460, 479	534, 782	1, 235, 184
Ship building, repairing and ship materials.....	106	2, 161	1, 556, 492	1, 065, 265	1, 293, 401	3, 083, 244
Silk goods, (not specified,) sewing and twist.....	10	489	1, 429, 000	326, 400	919, 024	1, 632, 900
Soap and candles.....	96	667	1, 821, 200	301, 344	1, 762, 376	3, 149, 481
Steel—Bessemer, cast, forged and springs.....	28	1, 979	5, 291, 400	1, 323, 134	4, 522, 954	7, 956, 001
Stereotyping and electrotyping.....	11	497	938, 000	320, 934	149, 150	792, 700
Stone and earthenware.....	198	1, 262	1, 477, 240	448, 315	534, 808	1, 659, 747
Tin, copper and sheet iron ware.....	974	3, 420	3, 202, 477	1, 206, 277	2, 425, 749	5, 311, 810
Tobacco, cigars.....	975	4, 564	1, 966, 395	1, 460, 359	1, 982, 445	5, 276, 628
Umbrellas and canes.....	27	653	1, 015, 682	343, 260	1, 051, 926	2, 049, 793
Upholstery.....	95	516	686, 888	212, 165	613, 889	1, 311, 743
Wood—turned, carved and work, miscellaneous.....	164	951	644, 548	381, 468	365, 689	1, 251, 030
Woolen goods.....	403	7, 992	14, 066, 785	4, 340, 066	17, 325, 849	27, 361, 897
Worsted goods.....	31	2, 168	3, 350, 078	1, 363, 334	4, 932, 940	7, 883, 038

## ACTUAL EARNINGS OF WORKMEN VERSUS QUOTED WAGES.

In the foregoing paper and tables, we have given the distribution of the rewards of industry as they are determined by the best data within our reach. In this, we propose to give the rates of wages collected by the Massachusetts Bureau, in many foreign countries, and in that State. This collection is the result of great expense and effort, and was intended, as explained by that Bureau, to show how the compensation received by labor in other countries compares with Massachusetts. We might have added to the curious interest attending this labored collection by putting in it the quoted wages in Pennsylvania. This we have not done, however, because we still adhere to the opinion expressed last year, that it is little difference to the result we are called upon to reach, what the wages in foreign countries are, and how they compare with ours, whether higher or lower. The only use made of such comparisons having been to make texts to be quoted in our journals, upon which discourses are founded, glorifying the superior treatment and condition of our working classes over those of other countries, a sort of "whistling to keep our courage up," while our streets swarm with mendicants, forced to become such by a system that has thrown at least one-third of all our working population idle and kept them so for a year and a half. We still believe the plan we adopted last year is the best, and every thing we have since learned has confirmed us in the conclusions we then reached. We, therefore, along with this collection of curiosities from the Massachusetts report, reproduce the pages showing our data, classifications and conclusions of last year.

Only adding, by way of further introduction, that extensive travel through the State, and personal observation and inquiry compels us to say, that to reach the actual earnings of this year, a deduction of at least 33 per cent. must be made from our last year's figures.

Extracts from last year's report, page 345, Schuylkill county.

A table showing the amount actually earned and received by the several classes of mine workers during this year of high wages, which our classification and the census will enable us to give, very closely approximating the truth, will be very instructive and suggestive. The following table will show the

## ACTUAL AVERAGE EARNINGS OF EACH CLASS FOR THE CENSUS YEAR.

Rate per day....	CLASS.	Numbers.....	Total amt. paid each class for year .....	Amount paid each class per day.....	Average earn'gs per man for year .....
\$3 74.78	Miners by contract .....	5,056	\$2,890,401 26	\$18,948 87	\$571 68
2 49.85	Miners by wages .....	1,124	428,521 21	2,809 31	381 25
2 14.16	Inside laborers .....	2,249	734,687 89	4,816 45	326 67
1 96.3	Outside laborers.....	2,550	763,547 57	5,005 65	299 43
1 07.08	Boys inside.....	886	144,714 80	948 72	163 34
80.31	Boys outside.....	3,094	379,021 27	2,484 79	122 50
Number of miners, laborers and boys..		14,959	5,340,894 00	35,013 79	
Number and pay of full time hands...		819	698,880 00		
Totals of census tables.....		15,778	6,039,774 00		

## OUR ESTIMATE OF NINE MONTHS AS A FULL YEAR'S WORK CORROBORATED.

This table fully corroborates our estimate of 9 months of 24 days each as a full average year's work; by dividing the total amount paid by the total earnings of one day under this classification and these wages, it will be seen that the average time made in this year was a little over  $152\frac{1}{2}$  days. This gives less than  $6\frac{1}{2}$  months of 24 days each for the year. When it is remembered that at least 6 months of this time, from the middle of June to the middle of December, 1869, under the impulse of high wages, everything was pushed to its utmost capacity, and from that until the first of April, 1870, three months, work was not entirely suspended at any time, and the most of the time pretty full, this showing will be very suggestive of the interruptions attendant upon the trade, and go far to vindicate the average adopted here. If, in the ten months from June 1, 1869, to April 1, 1870, six months of which work was pushed to the fullest capacity, and the remainder subject to very little more than the usual interruptions, only six months and less than a half could be made, it is hard to understand how the general average for twelve months could be more than nine.

In the year 1870 there were but five months worked as per this table.

## APPROXIMATED AVERAGE EARNINGS IN 1870.

The following statement shows an approximation to the amount of the average earnings of each class of workmen during these five months. The same rule that reduces the time made in the year to nine months, when no unusual obstacles intervene, holds good here, and this five months cannot be counted as more than an average of four. More especially is this the case since work slacked off very greatly through the latter half of Decem-



ber. The wages averaged for the five months eighteen and one-tenth per cent. below the basis. The account, therefore, stands thus, viz :

Miners by contract, ninety-six days, at \$2 86.65 per day.....	\$275 18
Miners by wages.....do.....do.. 1 91.1 ...do.....	183 45
Inside laborers.....do.....do.. 1 65.5 ...do.....	158 88
Outside laborers .....do.....do.. 1 50.15 ...do.....	<u>144 14</u>

ACTUAL AVERAGE EARNINGS, 1872.

As the deduction of  $8\frac{1}{4}$  per cent. each for the months of April and May, shows an average deduction for the year, of 1.375 per cent., the following will be the actual average earnings, supposing the average time made to have been our estimate of nine months, of twenty-four days each, for the year :

Miners on contract, 216 days, at \$2 93.33 .....	\$634 67
Miners on wages.....do..... 2 13.60 .....	461 37
Inside laborers .....do..... 1 80.80 .....	390 52
Outside laborers.....do..... 1 64.40 .....	355 10
Boys inside.....do..... 88.80 .....	191 80
Boys outside.....do..... 66.60 .....	<u>143 85</u>

For the rest of our extracts we will give the whole of the pages as they are, explanations and all, that the reasons for the conclusions we reached, may be seen.

LUZERNE COUNTY.

What has been said of the causes and rise of the Workingmen's Benevolent Association in Schuylkill county will apply also to Luzerne and Carbon, except that the movement in the two latter began and culminated earlier. While Schuylkill and Northumberland, together with Columbia, seem to have become ripe for the movement just at the time when what may be said to have been experimental movements in the upper counties had prepared the way for a more thorough, practical and benevolent organization than had hitherto been known. The great mining companies also, by concert of action that enabled them to control, to a great degree, the issue of contests between employers and employed, did much to prevent the isolated conflicts and strikes that in Schuylkill and the other lower counties were so prolific of dissension, bitterness and disaster. The consequence was, as the figures we are about to present will show, that at the time the great movements we have been treating of in Schuylkill commenced, the condition of labor in the northern field was much better. The census tables give for Luzerne county, as follows, viz :

Total number of collieries returned.....	<u>90</u>
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Total hands employed.....	28,016
Total men above ground.....	7,772
Total men under ground.....	16,589
Total boys above ground.....	1,670
Total boys under ground.....	1,985

The classification of workmen in Schuylkill county was based upon information derived from personal inquiry and very intimate knowledge of the trade there. In this and the other anthracite counties, modifications are needed to meet the different conditions existing, and to show these differences (in part) the following comparative table is given, collated from the census tables :

COMPARATIVE TABLE OF CENSUS RETURNS FOR ANTHRACITE COUNTIES.

COUNTIES.	No. of collieries.	Product in tons.	Total amount of wages paid.....	TOTAL HANDS EMPLOYED.				Product in tons per colliery ....	No. of hands per colliery.....	Product in tons per hand .....	Wages paid per hand .....
				Men above ground...	Men under ground...	Boys above ground...	Boys under ground...				
Carbon .....	4	403,384	\$592,334	565	425	44	180	100,846	303.5	332.2	\$487 91
Columbia .....	8	400,876	771,958	735	1,215	.....	353	50,109	287.8	174	335 19
Dauphin .....	5	411,355	571,924	416	1,164	62	90	82,271	346.4	237.5	330 21
Luzerne .....	90	9,519,298	13,269,206	7,772	16,589	1,670	1,985	105,769	311.3	339.7	473 62
Northumberland ..	27	1,001,200	1,652,953	1,142	2,010	627	60	37,081	142.1	260.8	430 57
Schuylkill .....	91	3,860,144	6,039,774	3,187	8,611	3,094	886	42,419	173.3	244.6	382 79
	225	15,596,257	22,898,149	13,817	30,014	5,497	3,554				
				30,014							
				5,497							
				3,554							
Total hands employed.....				52,882							

In collieries so large as the average in Luzerne and Carbon, the number of persons who are called full time hands must be largely in excess of those in the smaller collieries of Schuylkill, Northumberland and Columbia. The statement of Mr. Sharpe, in the Appendix, gives the number at his colliery at 29. The outside and inside superintendents mentioned are taken to be breaker bosses and mining bosses, as they are not otherwise specified. He only gives the wages of the engineers, machine superintendent, stablemen, &c. These we put at his figures, and the rest we estimate at wages proportionate with the general estimate for collieries of the Luzerne county class. His statement would show 29 full time hands to every 322 employed. But as his colliery is a little larger than the average of all in the county—that being 311.3 hands to the colliery—we reduce the number of engineers by one to each colliery, making the total 28 instead of 29. The full time hands to be deducted in this county from the whole number of hands, with their pay, will therefore be as follows, viz :

90 Mining bosses, 1 to each colliery, at \$1,500 00 ...	\$135,000 00
90 Breaker..do.....do.....	1,200 00 ... 108,000 00
90 Machine superintendents...do.....	1,200 00 ... 108,000 00

90	Carpenters, 1 to each colliery, at....	\$1,000 00	...	90,000 00
180	Ticket bosses, 2.....do.....	675,00	...	121,500 00
540	Stablemen, &c., 6.....do.....	675 00	...	364,500 00
1,440	Engineers, 16.....do.....	825 00	...	1,188,000 00
<hr/>				
2,520	.			<u>2,115,000 00</u>

By deducting this amount from the total wages paid, it will be seen that the miners, laborers and boys receive..... \$11,154,206 00

And by deducting from the whole number given in the census, 28,016, the above 2,520 full time hands, we have 25,496 miners, laborers and boys to whom it is paid. Now, we assume that the proportions of the classes, and the wages represented as having been paid at Mr. Sharpe's colliery, as per his statement, presents a reasonably close approximation to the general average, in these respects, of collieries in his county, as also in Carbon. We are, therefore, governed by his figures in making the following table, except as to the wages of boys, which we are sure are too high inside, and too low outside to be accepted as a fair presentation of the average in the county. We make this first table up, with the contract miners daily earnings put at \$5 00, because that is the amount testified to, both by Mr. Sharpe and Mr. Waddell :

Rate per day.....	CLASS.	Number.....	Earnings of each class per day.....	Earnings of each class for year of 180 days, or 7½ months.....	Average yearly earnings per man.....
\$5 00	Miners on contract .....	7,810	\$39,050 00	\$7,029,000 00	\$900 00
2 77	Miners on wages .....	1,403	3,886 31	699,535 80	498 60
2 22	Miners laborers, (average) .....	4,801	10,658 22	1,918,479 60	399 60
2 17	Laborers inside for company .....	2,305	5,001 85	900,333 00	391 90
2 47	Mechanics and helpers outside...	1,052	2,598 44	467,719 20	444 60
1 70	Outside laborers, (ordinary) .....	4,470	7,599 00	1,367,820 00	306 00
1 25	Boys inside .....	1,985	2,481 25	446,625 00	225 00
75	Boys outside .....	1,670	1,252 50	225,450 00	135 00
		<hr/>	<hr/>	<hr/>	<hr/>
		25,496	72,527 57	13,054,962 60	.....

The table demonstrates the wages as given in Mr. Sharpe's and Mr. Waddell's evidence, as entirely too high for an average. It will be seen that the amount earned for the year is, at these rates, \$1,900,576 60, about 27 per cent. too high, or rather, that much more than was actually paid. The year's work is put at 180 days, because we estimate 9 months of 24 days each as a full year's work ; and inasmuch as all the collieries in this region lost two months by suspension in this year, except those of the



two great companies alluded to in the paper on Schuylkill county, we reduce the time proportionately. As nine months is three-fourths of twelve months, seven and a half months, or 180 days, is three-fourths of ten months. Now, as the wages of the time-workers purport to be sworn abstracts from Mr. Sharpe's books, we cannot reduce them ; but the daily earnings of contract miners being only estimated by these witnesses, and their estimates being held by the miners themselves as being very greatly too high, it is manifest that the reduction must be made there alone. We, therefore, reduce the contract earnings by 27 per cent., and the following table furnishes its own evidence of approximate correctness. In this table we also include among the miners by wages, the mechanics and helpers, as from their pay they should rate as skilled workmen. Also, we throw together the miners' laborers, and company laborers, inasmuch as the difference in the rate of their wages is very trifling :

Rate per day....	CLASS.	Number.....	Earnings of each class per day...	Earnings of each class for census year.....	Actual avg. earnings for year...
\$3 65	Miners on contract.....	7,810	\$28,506 50	\$5,130,309 80	\$656 89
2 65	Miners on wages.....	2,455	6,505 75	1,170,838 71	476 92
2 20	Laborers inside, (average,).....	7,106	15,633 20	2,813,504 25	395 93
1 70	Laborers outside, (average,).....	4,470	7,599 00	1,367,590 86	305 94
1 25	Boys inside.....	1,985	2,481 25	446,550 16	224 96
75	Boys outside.....	1,670	1,252 50	225,412 22	134 98
Number and pay of miners and laborers ..		25,496	61,978 20	11,154,206 00	
Number and pay of full time hands.....		2,520		2,115,000 00	
Totals of census tables.....		28,016		13,269,206 00	

This we think is very close to the truth, both from the manner in which it corroborates the testimony of the workmen themselves, (see Mr. William's letter,) and the demonstration it furnishes of itself, that the wages could not have been higher than are here stated. If there is difficulty in reconciling the difference between the estimates so confidently given by the operators and these results, and if our figures fail to corroborate *them*, it must be borne in mind that the duty imposed here is as nearly as possible to present the *truth* as it is, and not as we would like it to be. It cannot be possible that more money was earned, and at higher wages than are given here for the census year, for the estimate of wages must be kept down so as to bring the earnings for the time that must have been worked within the amount that was actually paid. That the result thus necessarily reached is a *corroboration* of the workmen's assertions, is a fact for which we are not responsible ; our duty going no further than to be sure that *it is a natural and truthful result, arrived at by honest inquiry and analysis.*

ACTUAL EARNINGS VERSUS QUOTED WAGES.

CARBON COUNTY.

Rate per day....	CLASS.	Number.....	Earnings of each class per day...	Earnings of each class for year ..	Actual avg. earnings for year...
\$3 65	Miners by contract.....	184	\$671 60	\$148,912 40	\$809 25
2 65	Miners by wages.....	57	151 05	33,491 92	587 57
2 20	Inside laborers.....	168	369 60	81,950 71	487 80
1 70	Outside laborers.....	469	797 30	176,773 71	376 91
1 25	Boys inside.....	180	225 00	49,887 00	277 16
75	Boys outside.....	44	33 00	7,318 26	166 30
No. and pay of miners, laborers and boys,		1,102	2,247 55	498,334 00	
No. and pay of full time hands.....		112		94,000 00	
Totals of the census returns.....		1,214		592,334 00	

COLUMBIA COUNTY.

ACTUAL AVERAGE EARNINGS OF EACH CLASS FOR CENSUS YEAR.

Rate per day....	CLASS.	Number .....	Earnings of each class per day...	Earnings of each class for year ..	Actual avg. earnings for year...
\$3 00	Miners by contract.....	536	\$1,608 00	\$242,176 91	\$451 82
2 40	Miners by wages.....	167	400 80	60,363 58	361 45
2 14	Inside laborers.....	489	1,046 46	157,622 48	322 33
1 90	Outside laborers .....	662	1,257 80	189,433 79	286 15
86	Boys .....	353	303 58	45,721 24	129 52
No. and pay of miners, laborers and boys,		2,207	4,616 64	695,318 00	
Number and pay of full time hands.....		96		76,640 00	
Totals of census returns.....		2,303		771,958 00	

In this calculation, we are compelled largely to reduce the rates of wages below either the upper counties or Schuylkill. At this rate the time worked is only a little over 150 days, or six months and six days. All the information we have puts the conditions here the same as Schuylkill. By shortening the time worked we can increase the wages, but there is no reason known here why any other arrangement of the figures would not be further from the truth than this.

## DAUPHIN COUNTY.

## ACTUAL AVERAGE EARNINGS OF EACH CLASS FOR CENSUS YEAR

Rate per day....	CLASS.	Number .....	Earnings of each class per day...	Earnings of each class for year ..	Actual avg. earnings for year...
\$2 30	Miners by contract.....	415	\$954 50	\$204,153 94	\$491 93
2 00	Miners by wages.....	129	258 00	55,181 04	427 76
1 83	Inside laborers.....	379	693 57	148,343 49	391 40
1 75	Outside laborers.....	309	540 75	115,658 35	374 29
75	Boys inside.....	90	67 50	14,436 90	160 41
50	Boys outside .....	62	31 00	6,630 28	106 94
No. and pay of miners, laborers and boys..		1,384	2,545 32	544,404 00	
Number and pay of full time hands.....		32		27,520 00	
Number deducted from census tables.....		316			
Totals of census tables.....		1,732		571,924 00	

## NORTHUMBERLAND COUNTY.

## ACTUAL AVERAGE EARNINGS OF EACH CLASS FOR CENSUS YEAR.

Rate per day....	CLASS.	Number .....	Earnings of each class per day ..	Earnings of each class per year..	Actual avg. earnings per year..
\$4 20	Miners by contract.....	880	\$3,696 00	\$590,973 26	\$671 56
2 80	Miners by wages.....	274	767 20	122,671 63	447 70
2 40	Inside laborers.....	802	1,924 80	307,766 35	383 74
2 20	Outside laborers.....	975	2,145 00	342,975 47	351 76
1 20	Boys inside.....	60	72 00	11,512 34	191 87
90	Boys outside .....	627	564 30	90,228 95	143 90
No. and pay of laborers, miners and boys..		3,618	9,169 30	1,466,128 00	
No. and pay of full time hands.....		221		186,825 00	
Total of census returns.....		3,839		1,652,953 00	



-RECAPITULATION OF LABOR IN ANTHRACITE MINES.

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We have prepared the following table, as a condensed recapitulation of the results reached in the foregoing pages. To those who feel the interest in the subject, and have the patience to study it, it cannot but be very instructive and suggestive. Even should the reader discover the errors in it, (which we cannot hope may not be found,) it is confidently believed that it holds within itself the evidence of its near approximation to correctness. It will be used to enable us to classify and present the condition of labor in all the leading industries of the State, in all of which our information is meagre on those points, and in many, none at all, except general report. The difficulty of the work committed to us in this particular, can only be comprehended by a careful study of the figures presented here.

# RECAPITULATION OF LABOR IN ANTHRACITE MINES. 473

RECAPITULATION TABLE OF THE ANALYSIS OF RETURNS FOR THE ANTHRACITE COUNTIES.

COUNTIES.	CLASSES.	Numbers .....	Average daily wages .....	Average days worked .....	Total wages paid.	Actual average earnings for the year .....
Carbon .....	Full time hands ...	112	\$2 85	300	\$94,000 00	\$866 07
Columbia .....	....do ....do.....	96	2 66	300	76,640 00	798 33
Dauphin .....	....do ....do.....	32	2 87	300	27,520 00	860 00
Luzerne .....	....do ....do.....	2,520	2 80	300	2,115,000 00	839 28
Northumberland .....	....do ....do.....	221	2 81	300	186,825 00	845 36
Schuylkill .....	....do ....do.....	819	2 84	300	698,880 00	853 33
Totals and general averages .....	.....	3,800	2 80.6	300	3,198,865 00	841 80
Carbon .....	Skilled workmen ..	241	\$3 41	221.7	\$182,404 32	\$756 86
Columbia .....	....do ....do.....	703	2 85	150.6	302,540 49	430 35
Dauphin .....	....do ....do.....	544	2 23	213.8	259,334 98	476 72
Luzerne .....	....do ....do.....	10,265	3 41	180.0	6,301,148 51	613 84
Northumberland .....	....do ....do.....	1,154	3 86	160.0	713,644 89	618 41
Schnylkill .....	....do ....do.....	6,180	3 52	152.5	3,318,922 47	537 04
Totals and general averages .....	.....	19,087	3 41.8	169.8	11,077,995 66	580 37
Carbon .....	First class labor ...	168	\$2 20	221.7	\$81,950 71	\$487 80
Columbia .....	....do ....do.....	489	2 14	150.6	157,622 48	322 33
Dauphin .....	....do ....do.....	379	1 83	213.8	148,343 49	391 40
Luzerne .....	....do ....do.....	7,106	2 20	180.0	2,813,504 25	395 93
Northumberland .....	....do ....do.....	802	2 40	160.0	307,766 35	383 74
Schuylkill .....	....do ....do.....	2,249	2 14	152.5	734,687 89	326 67
Totals and general averages .....	.....	11,193	2 18.7	173.3	4,243,875 17	379 15
Carbon .....	Second class labor ..	469	\$1 70	221.7	\$176,773 71	\$376 91
Columbia .....	....do ....do.....	662	1 90	150.6	189,433 79	286 15
Dauphin .....	....do ....do.....	309	1 75	213.8	115,658 35	374 29
Luzerne .....	....do ....do.....	4,470	1 70	180.0	1,367,590 86	305 94
Northumberland .....	....do ....do.....	975	2 20	160.0	342,975 47	351 76
Schuylkill .....	....do ....do.....	2,550	1 96	152.5	763,547 57	299 43
Totals and general averages .....	.....	9,435	1 83.7	170.4	2,955,979 75	313 29
Carbon .....	Youth .....	224	\$1 15	221.7	\$57,205 26	\$255 38
Columbia .....	....do .....	353	86	150.6	45,721 24	129 52
Dauphin .....	....do .....	152	65	213.8	21,067 18	138 53
Luzerne .....	....do .....	3,655	1 02	180.0	671,962 38	183 60
Northumberland .....	....do .....	687	92	160.0	101,741 29	148 09
Schuylkill .....	....do .....	3,980	86	152.5	523,736 07	131 00
Totals and general averages .....	.....	9,051	93.2	168.3	1,421,433 42	157 04
Number and pay of employees .....	.....	52,566	\$2 39.9	181.5	\$22,898,149 00	\$435 60
Deducted from census for Dauphin county .....	.....	316			*84,664 00	
Total number given in census report .....	.....	52,882			22,982,813 00	

\*Amount credited to Allegheny and Montour counties in census, evidently error.

## LABOR IN THE BITUMINOUS COAL MINES.

The following shows the census returns for each of the counties producing bituminous coal, given as a comparative table:

COUNTIES.	No. of collieries.....	Product in tons.....	Total amount wages paid .....	Total hands employ- ed .....	Men under ground..	Men above ground..	Boys under ground..	Boys above ground..	Product in tons per colliery .....	No. of hands per col- liery .....	Product in tons per hand.....	Wages paid per hand	Wages paid per ton..
Allegheny .....	66	2,635,431	\$3,504,168	6,086	4,900	1,082	104	....	39,931	92.2	433	\$575 77	\$1 33
Armstrong.....	11	186,465	165,300	312	248	16	48	....	16,951	28.4	598	529 80	88.6
Beaver .....	16	28,020	27,750	83	70	12	1	....	1,751	5.2	338.8	334 34	98.7
Bedford .....	6	115,200	94,010	252	231	21	....	....	19,200	42	457.2	373 05	79
Blair .....	6	161,850	81,500	191	162	29	....	....	26,975	31.9	847.3	426 70	50.4
Bradford .....	2	350,000	560,000	750	700	50	....	....	175,000	375	466.6	746 66	1 60
Butler .....	46	63,118	57,307	149	143	6	....	....	1,372	3.3	423.6	384 61	90.8
Cambria.....	3	244,298	287,887	527	471	56	....	....	81,432	175.6	403.5	546 27	1 17.8
Centre .....	7	184,456	145,978	302	253	39	10	....	26,351	43	610.7	483 37	79.1
Clarion .....	9	55,540	41,570	103	97	6	....	....	6,171	11.4	539	403 59	74.8
Clearfield .....	11	181,237	147,903	279	251	21	7	....	16,476	25.4	649.6	530 11	81.9
Elk.....	2	78,779	78,920	142	100	13	20	9	39,389	71	554.9	555 77	1 00.1
Fayette.....	22	453,580	267,321	477	305	172	....	....	41,334	21.7	950.9	560 42	58.9
Huntingdon .....	7	163,693	175,014	334	195	139	....	....	23,385	47.8	490	523 90	1 06.9
Indiana .....	23	38,082	25,510	108	60	45	3	....	1,655	4.7	352.6	236 20	67
Jefferson .....	3	3,092	1,540	8	8	....	....	....	1,031	2.8	386.5	192 50	49.8
Lawrence .....	11	129,810	190,335	245	197	48	....	....	11,801	22.3	529.8	776 88	1 46.6
Lycoming .....	1	21,000	2,200	30	20	10	....	....	2,000	30	66.6	73 33	1 10.1
M'Kean .....	1	21,953	36,000	60	40	20	....	....	21,953	60	365.9	600 00	1 63.9
Mercer.....	34	659,875	1,130,827	1,994	1,732	258	4	....	19,408	58.6	330.9	567 11	1 71.3
Somerset .....	11	6,510	3,665	25	22	3	....	....	591	2.3	260.4	146 60	56.3
Tioga.....	3	733,562	650,000	1,683	1,375	308	....	....	244,521	561	435.9	386 20	88.6
Venango .....	11	36,230	51,020	108	97	11	....	....	3,293	9.8	335.4	472 40	1 40.8
Warren.....	1	200	200	2	2	....	....	....	200	2	100	100 00	1 00
Washington .....	27	510,077	489,880	1,042	790	129	123	....	18,892	38.6	489.5	470 13	96
Westmoreland .....	19	755,460	779,690	1,559	1,367	187	5	....	39,760	82	484.6	500 12	1 03.2
.....	....	7,798,518	8,995,495	16,851	13,836	2,681	325	9	....	....	....	....	....



It will be seen by an examination of this table that in some of the counties, the amount produced and wages paid are so exceedingly small that they serve as a demonstration that they are not the exclusive business of those engaged in coal mining in them; these counties are, more prominently than others, Indiana, Jefferson, Somerset and Warren. Lycoming would belong to the same class, if there is no error in the return, but as there is well known to be a very large colliery at Ralston, there is evidently clerical error in making up the tables. We throw out Lycoming then, along with those named above, in making our classification and averages, to show actual earnings for the year in this industry. The following five returns have been received from operators in the western bituminous field, upon which, and the sworn evidence of the miners at Pittsburg, together with the statement of the workmen taken in Fall Brook, Tioga county, we will mainly base our estimates of the actual average earnings.

Joseph Turnbull, miners.....	28.....	at \$4 50 per day, 9 months.	
Do.....do....drivers.....	2.....	3 25 do 9 do.	
Do.....do....laborers outside...	2.....	2 75 do 11 do.	
Do.....do....one hand at \$60 00 per month, 12 months in year.			
James Rutherford, bosses.....	2.....	at \$3 00 per day	
Do.....do....miners.....	34 }	at 4 00 do.	
Do.....do....boys.....	5 }		
Do.....do....pit driver.....	1, at	— do.	
Do.....do....tipple men, &c.....	3, at	2 75 do.	
Lewis, Bailey, Dalzell, & Co., bosses.....	1, at	4 50 do.	
Do.....do.....do....miners.....	69, at	2 44 do.	
Do.....do.....do....drivers & laborers inside, 10, at	2 37	do.	
Do.....do.....do....brakemen.....	4, at	1 87 do.	
Do.....do.....do....teamsters and outside laborers.....	6, at	2 00 do.	
Do.....do.....do....trappers, boys.....	2, at	50 do.	
Negley & Co., bosses and superintendents.....	2, at	3 25 do.	
Do.....do....miners.....	92, at	3 56 do.	
Do.....do....pit drivers, &c.....	20, at	2 50 do.	
Do.....do....brakemen.....	3, at	2 33 do.	
Do.....do....teamsters and laborers.....	11, at	2 00 do.	
Do.....do....trappers, boys.....	3, at	75 do.	
Hartley & Marshall, bosses.....	2, at	3 00 do.	
Do.....do....miners.....	120, at	3 50 do.	
Do.....do....pit drivers, &c.....	10, at	2 50 do.	
Do.....do....teamsters and outside laborers,	3, at	2 25 do.	
Do.....do....trappers, boys.....	4, at	60 do.	
Do.....do....engineers.....	2, at	2 00 do.	

The return of Mr. Joseph Turnbull, of Fayette City, in the matter of wages, was so much in excess of any other, that it was supposed to be an inadvertent error, and he was addressed a second time calling attention to it. The following is his reply :

FAYETTE CITY, NOVEMBER 8, 1873.

SIR : —My last report was as near the truth as I can make it. The facts are as follows : For each month of 1873, January and February, \$2 50 per day ; March and April, \$2 75 per day ; May, June and July, \$3 00 per day ; August, September and October, \$3 25 per day,

Yours, &c.,

JOSEPH TURNBULL.

Mr. Turnbull gives as the time made in a year by miners and drivers, 9 months, (which we put at 24 days each) outside laborers, 11 months ; one hand at \$60 per month, full time.

Lewis, Bailey, Dalzell & Co.—all the year, holidays and unforeseen accidents excepted. This cannot, in all likelihood, be more than 11 months of 24 days each.

James Rutherford—9 months average in the year.

Hartley & Marshall—bosses constantly employed ; average for remainder, 250 days—about ten months and half.

George Archbold in his evidence at Pittsburg, in answer to questions put by the deputy commissioner, puts the proportion of wage-workers to the whole, exclusive of boys, at about ten per cent.—about four boys to the hundred hands average.

Average wages of contract miners, from \$2 to \$2 50 per day, or \$25 to \$30 per pay of two weeks, at 4 cents per bushel rates.

Average drivers' wages, \$2 ; pit drivers, \$2 ; boys, from 50 cents to 75 cents per day.

Eli Enscoe, (also of Pittsburg evidence,) puts the average wages in the bank where he works, \$2 50 per day for 8 or 9 months, 12 hours per day.

William Chalmers (same.) "The mines where I work employ 120 hands. Of these, are 6 drivers, 3 trimmers, 1 is weigh-boss, 1 tippelman, 1 roadsman, 1 pit boss, 1 check weigh master, 2 blacksmiths, 1 carpenter and one boy greasing wagons—in all, 18 ; average earnings of contract miners, not exceeding \$2 50 per day. Average will be nearer \$2 25 ; for day-workers, from \$3 down to \$2 ; in some cases as low as \$2 00, and even \$1 75 per day."

The workmen at Fall Brook, Tioga county, gave the deputy commissioner the following figures :

To every 100 men there would be about the following proportions of each class, with the wages given opposite :

Drivers.....	14.....	from \$1 25 to \$1 80	per day.
Dumpers.....	6.....		1 62½ “
Slate pickers.....	3.....	from 1 37½ to 1 50	“
Of other hands at colliery,			
Repairing roads.....	2 men.....	at.....	2 00 “
Carpenter.....	1 man.....	at.....	2 00 “
Blacksmith.....	1 man.....	at.....	2 00 “

This is about the average for the last five years, except they are about five per cent. lower than in 1870.

We are paid 55 cents a ton for mining coal, and the operators claim five tons for a day's work on the average, but men more frequently make less than more.

The result of these statements would be about as follows :

For the western part of the State we take the statements of the operators, somewhat modified by those of the workmen in the evidence given at Pittsburgh. This is rendered the more appropriate, from the fact that in the answer to the inquiry made of Mr. Turnbull, it is indicated that these returns show the highest earnings made by any, and *not* in any just sense an average ; for instance, in his return, pit drivers, whom we put in our classification among first class unskilled labor, are given as receiving \$3 25 per day, while in his answer to our second application he shows the average to have been, at his own figures, \$2 86 per day. Now if this is to be taken as the conception of the operators, of what constitutes *average wages*, it is certainly no violent assumption to conclude that the very flattering rates given are the rates paid to the highest earners, at the exceptionally highest times in the year. If, therefore, we examine their statements in the light of the sworn statements of the workmen, estimating each at its apparent value, and striking an equitable *mean* between the two, we will probably not be far wrong.

It will be seen, also, that the cost in wages per ton of coal varies considerably between the counties favorably and unfavorably situated for shipping, and it is believed that while some of this difference is attributable to the more favorable conditions of the seams in some places than in others, yet that *more of it grows out of lower prevailing rates of wages in the regions less favorably located for market*. We, therefore, modify the rates in the Pittsburgh region as given in the operators' return, by the sworn statements of the workmen there, and take that average for the rates in all counties in which the cost per ton in wages is \$1 or more ; while in those in which it is less than \$1 we reduce the rates so found by one-half of the percentage of average difference. Thus, there are ten counties in which the cost per ton in wages equals or exceeds \$1 per ton, and these will show a general average of cost in wages of \$13 38 per ton, while there are eleven



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counties in which the cost is less than \$1 per ton in wages, and these show a general average of 90.3 cents per ton. The remaining five counties are left out for reasons already given. Now, without confusing our statement by multiplying figures here, showing the calculations, we present at once a table showing the classification, average daily earnings, and earnings for the year of each class, with actual average earnings of each person for the year, leaving those who care to do so to test their correctness upon the basis explained above :

ACTUAL AVERAGE EARNINGS OF EACH CLASS FOR CENSUS YEAR.

Rate per day....	CLASS.	Number .....	Earnings of each class per day...	Earnings of each class for year ..	Actual ave. earnings for year...
\$3 00	Bosses, &c., full time hands.....	826	\$2,478 00	\$743,400 00	\$900 00
2 50	Skilled workmen .....	12,883	32,207 50	7,043,329 03	546 71
2 00	Laborers, first class .....	1,652	3,304 00	722,538 73	437 37
1 75	Laborers, second class.....	1,156	2,023 00	442,402 10	382 70
60	Boys.....	334	200 40	43,825 14	132 21
Totals of census returns.....		16,851	40,212 90	8,995,495 00	.....

There can be but little doubt that this table approximates very closely the real average wages for the whole twenty-six bituminous coal counties in the census year. In some localities they rule higher—in some lower. In very few, however, of localities or trades, are quoted wages ever realized as averages, the tendency being on the part alike of employer and employed to over-state rather than under-state them. This fact furnishes the reason why, when we attempt to reconcile the quoted wages with the reasonably estimated time worked, and the amount actually paid, it is found necessary to reduce the quoted rates to bring the earnings for the time within the limit of the amount. In the estimate for the bituminous fields, the full time hands are given as having been employed 300 days in the year ; while at the rates adopted for the others there is only 218 days and a small fraction over. The results reached in these industries indicate the following general averages of earnings for the year ; being a general average of the classification and earnings of all the coal counties :

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CLASSIFICATION AND AVERAGE EARNINGS IN ALL COAL MINING.

CLASS.	Number.....	Percentage of the whole.....	Ave. days worked.....	General average earnings.....
Full time hands.....	4,626	6.7	300.	\$852 19
Skilled workmen.....	31,970	46.0	185.9	566 82
First class laborers.....	12,845	18.5	178.7	386 64
Second class laborers.....	10,591	15.3	175.5	320 87
Boys.....	9,385	13.5	169.6	156 12
	69,417			

## MINING OTHER THAN COAL.

In the mining of the following productions, it has not been in the power of the Bureau to obtain definite information, in the way of returns, and we must base our estimates on a few personal inquiries and common report; the census gives the following figures :

## RETURNS FOR MINING OTHER THAN COAL, FROM CENSUS.

PRODUCT.	Number of establishments.....	Total hands employed.....	Men above ground,	Men under ground	Boys above ground	Total wages paid..	Product in dollars,
Cooper .....	2	7	7	.....	.....	\$2,640	\$7,800
Iron ore.....	186	4,886	2,551	2,139	196	2,051,345	3,944,146
Marble.....	6	86	86	.....	.....	39,320	101,000
Nickel.....	1	48	26	.....	22	6,400	24,000
Petroleum.....	2,148	4,070	4,070	.....	.....	3,797,818	18,045,967
Slate .....	28	732	731	.....	1	325,447	618,229
Stone .....	126	1,114	1,112	.....	2	446,277	873,879
Zinc.....	1	400	180	180	40	167,721	235,555
	2,498	11,343	8,763	2,319	261	6,836,968	23,850,576

In this statement it will be seen that the earnings in the production of petroleum exceed more than twice those in the other products noted.

Upon application to the Hon. A. L. Campbell, of the House of Representatives, whose large experience in this pursuit enables him to speak with authority on the subject, we were informed that the wages paid in the oil operations are largely in excess of any other occupation in the region, and that the returns undoubtedly present a correct statement of the facts. He estimates the number of foremen at wages at about one to every two wells throughout the region, with wages from \$3 50 to \$5 per day; skilled workmen, drillers, tool dressers, engineers, &c., wages from \$3 to \$4 50 per day, and laborers from \$2 25 to \$3 50 per day; the two latter classes about equally divided in numbers. We, therefore, give the following as our classification, wages and earnings, based upon his information :



ACTUAL AVERAGE EARNINGS OF EACH CLASS FOR CENSUS YEAR.

Rate per day....	CLASS.	Number .....	Daily earnings of each class.....	Earnings of each class for year ..	Actual avg. earnings for year...
\$4 25	Foremen .....	1,074	\$4,564 50	\$1,279,109 67	\$1,190 97
3 50	Skilled workmen .....	1,498	5,243 00	1,469,246 53	980 80
2 50	Laborers, first class .....	1,498	3,745 00	1,049,461 80	700 57
Total of census tables .....		4,070	13,552 50	3,797,818 00	.....

The seven remaining mining industries are so nearly alike in the amount of annual earnings, (with the exception of nickel, which is so small in volume as not to affect materially the general average,) that in the absence of definite information, we are not inclined to multiply figures to no good purpose, and therefore present them all in one table, under the same general proportions as have been adopted in coal mines :

ACTUAL AVERAGE EARNINGS OF EACH CLASS FOR CENSUS YEAR

Rate per day....	CLASS.	Number .....	Earnings of each class per day...	Earnings of each class for year ..	Actual avg. earnings for year...
\$2 75	Foremen .....	510	\$1,402 50	\$397,249 33	\$602 25
2 25	Skilled workmen .....	2,900	6,525 50	1,429,557 78	492 97
1 75	Laborers, first class .....	1,797	3,144 75	688,937 87	383 38
1 45	Laborers, second class .....	1,805	2,617 25	573,375 45	317 65
70	Boys .....	261	182 70	40,029 57	153 37
Total of census tables .....		7,273	13,872 70	3,039,150 00	.....

As this is the conclusion of the consideration of mining industries, we give on next page a final recapitulation of the results reached, as follows :

MINING OTHER THAN COAL.

RECAPITULATION TABLE OF ALL MINING INDUSTRIES.

CLASS.	Number.....	Percentage of the whole.....	Avg. days worked.....	Avg. daily wages	General average earnings for yr..
Foremen, &c.....	6,210	.8	289.33	\$3 08	\$891 06
Skilled workmen.....	36,368	.45	192.49	3 00	577 98
Laborers, first class.....	16,140	.20	194.12	2 14	415 41
Laborers, second class.....	12,396	.15	180.7	1 77	320 40
Boys.....	9,646	.12	173	90.4	156 05
	80,760				
	*316				
	†13				
	‡126				
Total of census table.....	81,215				

\*Number deducted from census return for Dauphin county.

†Number credited erroneously to anthracite collieries in Allegheny by the census return.

‡Number credited erroneously in census return to anthracite collieries in Montour.

## MANUFACTURING INDUSTRIES.

We now give tables showing all the returns received at the Bureau, together with the statements received (not written) on personal application. These returns are, as has been before remarked, very few in number, and valuable more as showing the necessity of such legislation as would enable the Bureau to secure them largely, than for the aid they furnish to the work they were intended to promote.

## AGRICULTURAL IMPLEMENTS.

In this industry we have only received two returns, one from Chester county and one from Dauphin county.

The Dauphin county return is as follows, viz ;

Foremen.....	3, at \$3 00 per day
Machinists.....	6, at 2 25 do.
Carpenters.....	8, at 2 25 do.
Moulders.....	2, at 2 00 do.
Blacksmiths.....	1, at 2 25 do.
Painters.....	1, at 2 00 do.
Brass moulders.....	1, at 2 80 do.
Laborers.....	3, at 1 50 do.
Engineers.....	1, at 2 25 do.
Apprentices and youth, 13, average of.....	75 do.

The return from Chester county is as follows, viz :

Foundrymen.....	2, at \$2 50 per day.
Blacksmiths.....	3, at 2 50 "
Machinists.....	5, at 2 25 "
Wood-workers.....	6, at 2 25 "
Painters.....	1, at 2 00 "
Laborers.....	2, at 1 50 "
Engineers.....	1, at 1 50 "
Apprentices.....	2, at 75 "

The only value of these returns would be to show the proportion of skilled to unskilled labor, and the prevailing rates of wages in these two somewhat widely separated localities.

The census gives the following figures for this industry, viz :

Number of establishments .....	286
Number of hands employed.....	2,286
Number of men employed.....	2,248
Number of youth employed.....	38
Total wages paid .....	\$1,025,618 00



In the returns we have given we have reason to believe that a very just and fair statement of the average in this State may be found. The census, it will be observed, gives all as men over sixteen years of age. In these trades there are very few boys go to learn their trades until they are sixteen, and consequently many of those enumerated as males above sixteen are apprentices in all the stages between sixteen and twenty-one. For the purpose of this inquiry, therefore, we take the proportions as shown in these returns, and present the following table as the result :

ACTUAL AVERAGE EARNINGS OF EACH CLASS FOR CENSUS YEAR.

Rate per day....	CLASS.	Number.....	Earnings of each class per day...	Earnings of each class for year ..	Actual average earnings for yr.
\$3 00	Foremen.....	114	\$342 00	\$82,957 89	\$727 70
2 27	Skilled workmen.....	1,372	3,114 44	755,459 07	550 62
1 50	Second-class laborers.....	229	343 50	83,321 76	363 85
75	Boys, apprentices, &c.....	571	428 25	103,879 28	181 92
	Totals of census returns.....	2,286	4,228 19	1,025,618 00	.....

This calculation gives an average of a little over 242½ days worked for the year, or 10 months and 2½ days, of 24 days each. This is believed to be about the real average time made. It will be observed that in the Massachusetts reports and also in the very excellent but rather *rose colored* essay of Mr. Lorin Blodget, which will be found in this report, that the quoted wages are treated to a great extent as averages, and that the short time worked that they indicate is attributed to “ease and choice,” or love of leisure on the part of the workmen. This, all the information we have been enabled to gather leads us to regard as erroneous. The prevailing characteristic among workmen, on the contrary, is an anxiety to make the fullest time possible. That there are constitutionally worthless men—idlers from a slothful physical habit, or from the demoralization of drunkenness—is not to be denied ; but to assume that these vices prevail to such a degree as to affect, in any appreciable sense, the average in a calculation like this, is certainly a mistake. In the inquiries instituted by the Bureau a good deal of attention was given to this special point, and the result would indicate that the idlers from these causes are about three in every one hundred workmen.

COTTON GOODS.

The two following very satisfactory returns have been received from cotton mills ; the first from the Messrs. Garsed, of Frankford, and the other from the Harrisburg Cotton Mill Company. It is greatly to be regretted

that business men engaged in this, as well as other industries, have not been able to see the ultimate good to be derived from this inquiry, or that the power and means had not been placed at the disposal of the Bureau that would have enabled it to procure fuller returns:

First return.

Card room hands.....	1 boss.....	at \$3 00 per day.	
Do....do.....	1 .....	at 1 66	do.
Do....do.....	3 frame tenders, (women,) ....	at 1 33	do.
Do....do.....	4 helpers, (youth,) .....	at 1 00	do.
Spinning room hands,	1 boss.....	at 4 00	do.
Do....do....do..	7 helpers, (youth,) .....	at 65	do.
Weaving room....do..	1 boss.....	at 3 00	do.
Do....do....do..	2 second bosses.....	at 2 33	do.
Do....do....do..	64 weavers, (women,).....	at 1 42	do.
Beaming room....do..	1 boss.....	at 3 00	do.
Do....do....do..	3 beamers and twistors.....	at 2 16	do.
Do....do....do..	1 helper, (youth,) .....	at 50	do.
Cloth room....do..	1 boss. ....	at 3 00	do.
Do....do....do..	1 assistant.....	at 2 16	do.
Do....do....do..	1 assistant, (youth,).....	at 75	do.
Do....do....do..	3 burlers, (women,) .....	at 1 00	do.
Doubl'g & spool'g room,	1 boss.....	at 2 00	do.
Do....do....do..	4 doublers, (women,).....	at 1 00	do.
Do....do....do..	10 spoolers and rulers, (women,) at	1 25	do.
Dyers' room.....	1 boss .....	at 3 00	do.
Do .....	5 dyers and sizers .....	at 2 00	do.
Do .....	1 sizers' assistant, (youth,)...at	1 50	do.

MISCELLANEOUS.

Engineer.....	1, at	2 33	do.
Driver .....	1, at	2 33	do.
Machinist .....	1, at	3 00	do.
Watchman.....	1, at	2 00	do.
General laborer .....	1, at	2 00	do.
General helpers, (youths,).....	3, at	50	do.

Second return.

Spinners .....	3 foremen.....	at 2 41 per day.	
Do .....	8 women.....	at 1 05	do.
Do .....	91 youth.....	at 50	do.
Weavers.....	7 men .....	at 2 00	do.
Do .....	67 women .....	at 92	do.
Do .....	7 youth.....	at 50	do.

Carders .....	13 men .....	at \$1 57 per day.
Do .....	25 women.....	at 75 do.
Do .....	27 youth.....	at 62 do.
Dressers.....	2 men .....	at 2 45 do.
Do .....	1 women.....	at 1 16 do.
Do .....	6 youth.....	at 50 do.
Engineers .....	2 men .....	at 2 66 do.
Packers .....	2 men .....	at 1 85 do.
Do .....	8 women.....	at 66 do.
Machinists .....	6 men .....	at 2 40 do.
Watchmen and laborers,	5 men.....	at 1 58 do.

As these are all the returns we have from this industry, we must use them as conclusive of the wages and classification. The census gives under the head of "cotton goods (not specified)" as follows :

Number of establishments.....	121
Do....hands employed.....	12,281
Do....males above 16.....	3,729
Do....females above 15.....	5,965
Do....youth.....	2,587
Total wages paid.....	\$3,386,248

These we classify as follows, under the guidance of the above returns, determining the average wages therefrom, rating *as bosses*, only those whose pay is \$3 per day and over, and putting the foreman at less than that among the skilled workmen. It will be seen also that we put all over \$2 among the skilled workmen ; those at \$2 as first class laborers, those below \$2 as second class laborers ; as youth, all above 62 cents, and as children all below it. The result shows 228 days as the average year's work.

TABLE OF CLASSIFICATION, WAGES AND EARNINGS IN COTTON MANUFACTURES.

Rate per day....	CLASS.	Number .....	Earnings of each class per day....	Earnings of each class for year...	Actual avg. earnings for year...
\$3 16	Foremen.....	298	\$941 68	\$214,529 79	\$719 89
2 37	Skilled workmen.....	1,007	2,386 59	543,702 80	539 92
2 00	Laborers, first class .....	746	1,492 00	339,900 26	455 63
1 60	Laborers, second class.....	1,044	1,670 40	380,539 68	364 50
1 09	Women .....	5,965	6,501 85	1,481,226 81	248 30
83	Youth.....	634	526 22	119,880 43	189 08
52	Children .....	2,587	1,345 24	306,468 23	118 46
	Totals of census tables.....	12,281	14,863 98	3,386,248 00	.....



## CARPENTERING AND BUILDING.

In this industry we have but one return, that of Mr. Ezra Cockill, Sr., of Schuylkill county, an extensive breaker builder and house carpenter. It is as follows:

Number of foremen..... 4, at \$3 00 per day.  
 Number of carpenters..... 40, at 2 50 per day.

The classification that Mr. Blodget speaks of in his essay before alluded to, would be invaluable in its application to the object we have in view. In the absence of anything of the kind, we must substitute for it, for this year, estimates based upon the best data attainable. The above return of Mr. Cockill gives one foreman to every ten skilled workmen. He does not give any statement of the number of unskilled workmen who operate in conjunction with these, or who are a part of them, as helpers, and of whom there are always some employed. Mr. Blodget puts the wages in Philadelphia at from \$2 to \$3 per day for carpenters. As we cannot believe, and do not think any one else believes, that any skilled carpenters work in Philadelphia at the lowest of these figures, we put those who receive that rate, and are reckoned among the numbers of carpenters, down as these unskilled workmen, or, as we classify them, first-class laborers. Careful inquiry and observation leads us to put this class of workmen in this trade at the same proportion as foremen to the whole, viz: 10 per cent. The wages will also have to be reduced somewhat below Mr. Blodget's estimate, and Mr. Cockill's, to show an average for the whole State, inasmuch as the rates of wages generally in Philadelphia and Schuylkill range higher than in localities where the industries are not so diversified and extensive. For instance, in the coal region of Tioga, the wages of carpenters and blacksmiths are quoted at \$2, and Hon. Mr. Burkholder, of Lancaster, informs us that as many, if not more, carpenters, machinists and blacksmiths are employed at less than \$2 per day as there are who receive that much.

We estimate, therefore, the average wages for foremen in this trade, all over the State, at \$2 75 per day; skilled workmen \$2 25, and first class laborers at \$1 87.

Our table then will stand thus: The census gives—

Number of establishments.....	1,846
Do.....hands employed .....	10,538
Do.....males above 16 .....	10,436
Do.....youth .....	102
Total amount of wages paid.....	\$5,335,181 00

We estimate also, that at least 10 per cent. of the whole number are apprentices, the youth under 16, not being more than a very small portion of the whole number.

## MANUFACTURING INDUSTRIES

This calculation shows 239.7 days worked, on the average for the year :

## CLASSIFICATION, WAGES AND AVERAGE EARNINGS.

Rate per day....	CLASS.	Number.....	Earnings of each class per day...	Earnings of each class for year ..	Actual avg. earnings for year....
\$2 75	Foremen .....	1,053	\$2,895 75	\$694,133 51	\$659 19
2 25	Skilled workmen .....	7,379	16,602 75	3,979,823 71	539 34
1 87	Laborers, first class .....	1,053	1,969 11	472,010 49	448 25
75	Apprentices, &c .....	1,053	789 75	189,213 29	179 68
Totals of census returns.....		10,538	22,257 36	5,335,181 00	

## CARRIAGE BUILDING.

The operatives in this industry we divide into five principal classes, viz: Wood-workers, blacksmiths, painters, trimmers and laborers; among the latter are included blacksmith's helpers, porters, filers, &c., whose rate of pay, as compared with the former, would indicate that they are not skilled workmen. The names of those making the returns are not inserted, but instead, the number of the blank which was put upon it, in the order in which it was received.

TABLE OF RETURNS RECEIVED.

Number of blank,	Total No. of hands,	No. of foremen ...	Daily wages.....	No. of woodwork's,	Daily wages.....	No. of blacksmiths	Daily wages.....	No. of painters....	Daily wages.....	No. of trimmers ..	Daily wages.....	Laborers, helpers, & other unskill'd hands.....	Daily wages.....	No. of apprentices,	Daily wages.....
5	101	2	\$5 00	24	\$3 30	8	\$4 00	18	\$2 75	14	\$2 75	19	\$1 95	16	80
6	13	...	...	2	2 50	3	2 50	2	2 50	1	2 25	...	...	5	60
7	12	...	...	2	2 50	4	2 50	2	2 50	1	2 50	...	...	3	75
8	36	1	3 00	7	2 50	11	2 25	5	2 25	5	2 25	...	...	7	60
15	13	...	...	4	3 25	2	3 00	3	2 50	1	3 50	...	...	3	75
Avg's	175	3	4 33	39	3 07	28	3 17	30	2 61	22	2 64	19	1 95	34	72

These returns are all from the localities where wages rule the highest in the trade, Philadelphia, Pottsville, Harrisburg, and Mount Joy in Lancaster county; that they are too high to be taken as an average for the State, is evident from the fact that at this rate only an average of 149.2 days could have been work in the year. To those familiar with this industry, the knowledge of this fact will be sufficient demonstration of the necessity of reducing the estimated rates very far below these returns, to give any thing like a true average. In the table following, however, the reduction is

so great that it requires some explanation. This is not an industry that depends at all upon weather, the operations being always carried on in shops, nor are there any special seasons in which business is active—on the contrary, its operations run quite evenly throughout the whole year. There is, then, no loss of time except from sickness, dissipation, or change of employ from one shop to another. We cannot fairly reduce the time estimated to be worked in the year below a nine months' average, but it will be seen that even at the rate adopted below, there is only an average of 220 days worked in the census year. The census gives the following figures :

Total number of establishments returned .....	1,449
Do....do....hands employed.....	6,252
Do....do....males above 16.....	6,199
Do....do....females above 15.....	5
Do....do....youth.....	48

In our calculations we include the females among the youth, because we have not, and cannot get any information as to the proper classification to make of them, and because the wages usually paid to women conform more nearly to those paid to youth than to men.

## CLASSIFICATION, WAGES AND AVERAGE EARNINGS.

Rate per day....	CLASS.	Number.....	Earnings of each class per day...	Earnings of each class for year..	Actual avg. earn- ings for year...
\$2 50	Foremen.....	125	\$312 50	\$68,750 00	\$550 00
1 90	Skilled workmen.....	4,251	8,076 90	1,776,847 45	417 98
1 50	Laborers.....	688	1,032 00	227,031 70	329 98
60	Apprentices, &c.....	1,188	712 80	156,811 85	131 99
Totals of census tables .....		6,252	10,134 20	2,229,441 00	.....

## CARS—FREIGHT AND PASSENGER.

The only return received of this industry is that of the Harrisburg Car manufacturing company, whose enlightened and public spirited manager responded promptly to the application. The return is as follows:

Foremen .....	16, at \$3 00 per day.
Blacksmiths.....	53, at 2 25 do.
Moulders.....	35, at 2 10 do.
Do....apprentices .....	7, at 1 00 do.
Machinists .....	30, at 2 25 do.
Do....apprentices .....	10, at 1 00 do.



Pattern makers.....	4, at \$2 38 per day.
Do....apprentices.....	1, at 1 00 do.
Carpenters.....	230, at 2 00 do.
Do....apprentices.....	5, at 1 00 do.
Painters.....	17, at 2 00 do.
Do....apprentices.....	13, at 75 do.
Laborers.....	375, at 1 50 do.

The census returns give in this industry the following :

Total number of establishments.....	49
Do....do....hands employed.....	4,076
Do....do....males above 16.....	3,975
Do....do....females above 15.....	14
Do....do....youth.....	87
Total wages paid.....	<u>\$2,193,857 00</u>

In all these tables we classify the workmen substantially, according to the returns received. Thus, in this the foremen are 2 per cent., the skilled workmen 46 per cent., laborers 47 per cent., and apprentices 5 per cent. of the whole. Here again are 14 women returned. It is presumable that they are employed about the upholstering. But as we have no data to go upon in regard to them, we classify the whole as above.

The table then is as follows :

CLASSIFICATION, WAGES AND AVERAGE EARNINGS.

Rate per day.....	CLASS.	Number.....	Earnings of each class per day...	Earnings of each class for year..	Actual avg. earnings for year...
\$3 00	Foremen.....	81	\$243 00	\$74,209 37	\$916 16
2 07	Skilled workmen.....	1,875	3,881 25	1,185,277 10	632 15
1 50	Laborers.....	1,916	2,874 00	877,677 94	458 08
91	Apprentices.....	204	185 64	56,692 59	277 90
Totals of census returns.....		4,076	7,183 89	2,193,857 00	.....

According to these rates of wages and classification, the average time worked for the year in this industry was a little over 305 days. This is very full time, and would seem to indicate that the average wages should be a little higher. But inasmuch as the difference would not be great, and as we desire to leave the wages as near the rates returned as a fair regard for probabilities will admit, we will not disturb them.

#### CLOTHING.

We have received from this industry but one return, and that from Philadelphia. We give it as follows :

Number of tailors..... 10, at \$3 50 per day, 9 months in the year  
 Number of tailoresses..... 10, at 2 00...do....9.....do....do....

This return is accompanied by the following remarks :

"The manufacture of clothing 'to order' is done by having the materials cut at the establishment and given to men and women foremen, who have others to do the work, foremen making from \$6 to \$7 per day and their hands \$2, but the table is made to show the production of our labor employed singly."

If the above return is true, and a true presentation of the condition of the employees in this industry, the general representations made are outrageously false and mischievous. It was the earnest desire of the Chief of the Bureau that this should be made a special inquiry, but the character of the legislation under which we acted was so ineffective, the means at our disposal so very small, and the indisposition to submit to the inquiry voluntarily so palpable, that the effort had to be abandoned. It was the more desirable to investigate the condition of labor in this large branch of industry, because in it female labor is very largely employed, and, it has been especially charged for years, with oppressive exactions and inadequate compensation. The most we can do under the circumstances, for this year, is to submit it to the same test that we have applied to other industries, trusting that the importance of inquiry, indicated by our approximations, may impress the Legislature with the necessity for more efficient legislation.

We include in these analyses all the divisions in the census under the head of clothing, showing first the results of a table with wages rated according to this return, and of one reduced to the requirements of probable average time worked. The census gives as follows, under head of clothing :

Establishments, children.....	12
Do.....total hands.....	114
Do.....males above 16.....	38
Do.....females above 15.....	76
Do.....youth.....	—
Do.....total wages paid.....	\$36,700 00
Establishments, men.....	1,364
Do.....total hands.....	17,973
Do.....males above 16.....	7,781
Do.....females above 15.....	9,917
Do.....youth.....	275
Do.....total wages paid.....	\$4,758,807 00

Establishments, women.....	162
Do.....total hands employed .....	1,049
Do.....males above 16 .....	83
Do.....females above 15.....	939
Do.....youth.....	27
Do.....total wages paid.....	<u>\$244,765 00</u>

The grand total of all these will be as follows :

Total number of establishments. ....	1,538
Do.....hands employed .....	19,136
Do.....males above 16 .....	7,902
Do.....females above 15.....	10,932
Do.....youth.....	302
Total wages paid.....	<u>\$5,040,272 00</u>

As the same facts with reference to the youth reported in the census will hold good here as in other trades, viz: That they do not represent the number of apprentices, we, in our classification, allow about the usual proportion, 10 per cent., to be of that class. Now if the rates in the above return are the average wages paid in this industry, say for 9 months of 26 days in the year, the earnings would be as follows :

We make the foremen, to be one to each establishment, and the apprentices to be 10 per cent. of each class, men and women.

Foremen.....	1,538...234 days, at, say \$5 00 per day..	\$1,799,460 00
Tailors .....	5,864...234 days, at.... 3 50....do.....	4,802,616 00
Tailoresses...	9,975...234 days, at.... 2 00....do.....	4,668,300 00
Apprentices..	1,759...234 days, at, say 60....do.....	246,963 60
	<u>19,136</u>	<u>11,517,339 60</u>

By looking at the statements in the return entered here, then at the totals of the census return, then at this extraordinary result, the preposterous exaggeration of such statements of wages are unmistakably seen. An analysis of the census return of the three divisions of children's, men's and women's clothing, will develop no reason why they should be classified separately, for it would seem that in children's clothing the earnings to each person are greater than in either of the others ; while in women's there is only about as much deficiency as would naturally result from the difference in the number of men employed as between that and men's clothing. Much of this discrepancy, between the wages quoted here and the census demonstration, might be accounted for if upon any just hypothesis we could assume that the hands who work intermittently, those untold and unknown thousands of overburdened women who toil at the needle in the intervals of household duty to eke out their insufficient incomes, were included in



this return ; but this assumption would be violent, for the returns indicate only a little over twelve hands to the establishment, and the number of establishments being so small as to demonstrate that only the larger ones have made returns, would be a very sure demonstration of the fact that these are the regular hands who pursue the calling exclusively for maintenance. The excess of earnings at the rates and for the time here given is equal to a little more than 56 per cent.; but as nine months is the time mentioned in the return, and that may easily be more than the average time made, we reduce the wages by 50 per cent., and give the result as the nearest approximation in our power to the true condition as to wages and earnings in this industry.

CLASSIFICATION, WAGES AND AVERAGE EARNINGS IN CLOTHING MANUFACTURES.

Rate per day....	CLASS.	Number .....	Earnings of each class per day ..	Earnings of each class for year ..	Actual avg. earnings for year...
\$2 50	Foremen .....	1,538	\$3,845 00	\$776,392 10	\$504 80
1 75	Tailors .....	5,864	10,262 00	2,072,119 17	353 36
1 00	Tailoresses .....	9,975	9,975 00	2,014,172 13	201 92
50	Apprentices and youth.....	1,759	879 50	177,589 60	100 96
Totals of census returns.....		19,136	24,961 50	5,040,272 00	.....

It will be seen that this table indicates an average of a fraction under 202 days worked in the year, or 8 months and ten days of 24 days each.

## SADDLERY AND HARNESSMAKING.

In this industry we have one return, and that from the city of Lancaster; it is as follows:

Foreman.....	1, at \$3 50 per day.
Saddlemaker.....	1, at 2 00 do.
Harnessmakers.....	6, at 2 00 do.
Collarmaker.....	1, at 2 50 do.
Jobbers.....	2, at 1 75 do.
Apprentices.....	3, at 58 do.

The return of the census is as follows:

Number of establishments.....	903
Do.... hands employed .....	2,488
Do.... males above 16 .....	2,431
Do.... females above 15.....	26
Do.... youth .....	31
Total wages paid.....	\$662,347 00

The census here, it will be seen, gives not quite three hands to each establishment ; as shops so small would hardly have a foreman, the proprietor most probably acting in that capacity, we will estimate the number of foremen at one-fourth the number of establishments, and throw the women and youth among the apprentices, as in other trades where women appear to be exceptionally employed.

At the wages noted in the return, it will be seen that only 133 days' work could have been averaged in these 903 establishments. As this is far below the time that should be made in a trade not influenced by weather or change of season, and, as the return is evidently from a large concern, in which wages above the average are paid, we estimate the average of foremen's wages at \$2 50, and of skilled workmen at \$1 75 per day.

CLASSIFICATION, WAGES AND AVERAGE EARNINGS IN SADDLERY AND HARNESSMAKING.

Rate per day....	CLASS.	Number.....	Earnings of each class per day...	Earnings of each class for year ..	Actual avg. earnings for year...
\$2 50	Foremen.....	225	\$562 50	\$87,920 96	\$390 75
1 75	Skilled workmen .....	2,015	3,526 25	551,168 05	273 53
60	Apprentices .....	248	148 80	23,257 99	93 78
	Totals of census returns .....	2,488	4,237 55	662,347 00	.....

This table, even at these low wages, only shows an average of a small fraction over 156 days, or six months of 24 days each and 12 days over.

IRON—ROLLED, CAST, FORGED, &c.

In this industry, which the census divides into eleven separate divisions, we have received three returns, one each from Philadelphia, Pottsville and Williamsport. We have notes of the statements received at Allentown, upon personal application. These latter will be put first on the list.

Allentown, per furnace, 2 keepers .....	at \$2 58 per day.
Do.....do..... 6 helpers .....	at 2 40 do.
Do.....do..... 8 fillers .....	at 2 40 do.
Do.....do..... 2 engineers.....	at 2 25 do.
Do.....do..... 2 cindermen .....	at 2 00 do.
Do.....do..... 1 founder.....	at 3 00 do.
Do.....do..... 8 laborers .....	at 1 65 do.

This was given by the very courteous manager of the Allentown iron company's works, as the outfit of hands and their pay, of an ordinary furnace, say of 16 feet bosh. Full time can be made by the hands, inasmuch as the furnaces are working day and night, so that the only time not lost voluntarily, is from sickness, loss of employment or dissipation.

Philadelphia,	2 draughtsmen.....	at \$3 00 per day.
Do.....	2 blacksmiths and boiler makers.....	at 3 00 do.
Do.....	3 patternmakers.....	at 2 25 do.
Do.....	2 mill-wrights.....	at 3 00 do.
Do.....	10 machinists.....	at 2 66 do.
Do.....	4 laborers .....	at 1 62 do.
Do.....	1 engineer.....	at 2 33 do.
Do.....	8 apprentices.....	at 53 do.

"Our works have the tools and buildings capable of employing one hundred hands. Our business is dull now and has been for four months past."

The time given, as worked in a year in this return, is 300 days.

Williamsport,	1 foreman.....	at \$4 00 per day.
Do.....	3 foremen.....	at 3 50 do.
Do.....	1 draughtsman .....	at 4 00 do.
Do.....	1 engineer .....	at 2 00 do.
Do.....	1 watchman.....	at 2 00 do.
Do.....	23 machinists.....	at 3 00 do.
Do.....	5 patternmakers.....	at 2 75 do.
Do.....	3 blacksmiths .....	at 3 00 do.
Do.....	4 helpers .....	at 2 00 do.
Do.....	7 moulders.....	at 2 75 do.
Do.....	11 laborers.....	at 1 75 do.
Do.....	3 apprentices.....	at 75 do.

Pottsville—furnaces—	85 furnace men.....	at \$1 95 per day, (12 hours.)
Do .....	4 carpenters .....	at 2 50 do. (10 hours.)
Do .....	2 blacksmiths .....	at 2 50 do. do.
Do .....	59 laborers.....	at 1 50 do. do.

Pottsville—passenger rail mills—	2 machinists.....	at \$2 12½ per day.
Do.....	do..... 2 carpenters.....	at 2 37½ do.
Do.....	do..... 2 moulders.....	at 2 29 do.

Pottsville—passenger rail mills—291 laborers, from boys at fifty cents to one dollar per day, to laborers, outside, from \$1 41 to \$1 58 per day, and laborers, inside, from \$1 12 to \$3 75 per day. Puddling furnaces—160 puddlers, at \$6 60 per ton, should make \$4 per day. Fifty rail mill men, at from \$2 50 to \$5 per day.

The census gives the following figures in the iron manufacturing industries—machinery, in the four census divisions, not specified, cotton and woolen, railroad repairing, and steam engines and boilers being included :



MANUFACTURING INDUSTRIES.

CENSUS TABLES OF IRON MANUFACTURES.

IRON.	No. of establish-ments.....	Total hands em-plied.....	Males above 16 years.....	Females above 15 years.....	Youth.....	Total wages paid.
Blooms .....	43	1,473	1,422	2	49	\$707,589 00
Forged and rolled .....	135	21,865	20,974	20	871	12,243,483 00
Anchors and cable chains.....	4	48	33	.....	15	18,500 00
Bolts, nuts, rivets, &c.....	29	1,553	1,230	18	305	805,323 00
Nails and spikes, cut & wro't..	31	2,036	1,594	22	420	1,106,214 00
Pipe, wrought .....	8	1,288	1,195	.....	93	709,710 00
Railing.....	12	55	54	.....	1	18,176 00
Ship building and engines....	1	352	352	.....	.....	210,000 00
Pigs.....	136	10,861	10,629	10	222	5,014,455 00
Castings, (not specified).....	443	7,587	7,259	2	326	3,813,037 00
Stoves, heaters, &c.....	81	2,052	1,897	.....	155	1,139,751 00
Machinery, four divisions ....	477	17,690	17,314	54	322	9,944,130 00
Totals.....	1,400	66,860	63,953	128	2,779	35,730,368 00

Two of the preceding returns include book-keepers and clerks which we have left out because they were not intended to be included in the census return, (as we are informed by Mr. Walker, the superintendent of the census;) only one of them includes foremen or overseers, which all large establishments have and must have, and, as usual, the return of youth cannot include apprentices, and we know nothing of the place the females have in this industry; we therefore divide the whole by the percentages indicated by an average of the returns, allowing 4 per cent. to be foremen and 10 per cent. apprentices, as is estimated generally to be the average.

CLASSIFICATION, WAGES AND AVERAGE EARNINGS IN IRON MANUFACTURES.

Rate per day....	CLASS.	Number.....	Earnings of each class per day...	Earnings of each class for year...	Actual avg. earnings for year...
\$3 50	Foremen.....	2,005	\$7,017 80	\$1,841,007 24	\$918 20
3 00	Skilled workmen .....	20,728	62,184 00	16,313,931 30	787 04
1 80	Labor, first class.....	19,389	34,900 00	9,155,992 65	472 22
1 50	Labor, second class.....	18,052	27,078 00	7,103,896 58	393 52
75	Apprentices.....	6,686	5,014 50	1,315,540 23	193 75
Total of census tables .....		66,860	136,194 00	35,730,368 00	.....

It will be seen that we have rated foremen's wages less than in the return, while the other classes are put within a few cents of the exact average wages reported. The time worked at these rates to earn the amount paid as per census return, is ten months of twenty-six days and two days over.

## LUMBER.

In lumber we have received one return from Williamsport, which is as follows :

Foremen, four, at \$3 06 per day for the year; engineer, one, at \$1,200 per year; filers, three, at \$4 00 per day, employed eight months; sawyers, &c., sixty-three, at \$2 15 per day, employed eight months; wages of men, from \$2 25 to \$2 75 per day; wages of boys, from \$1 25 to \$2 00 per day.

In this return it will be seen that we are left entirely to surmise as to the proportion of boys to the whole number, and as to their average wages. We must, therefore, estimate in both these particulars. In the matter of planed lumber and staves and shooks the conditions are so near the same that we include them in one table. The figures from the census are as follow :

Number of establishments for planed lumber.....	183
Number of hands employed.....	1,859
Number of males above 16.....	1,813
Number of females above 15.....	2
Number of youth.....	44
Total amount wages paid.....	\$958,817 00
Number of establishments for staves, shooks, &c.....	1
Number of hands employed, men.....	3
Total amount wages paid.....	1,500 00
Total amount paid in both divisions.....	960,317 00

## CLASSIFICATION, WAGES AND AVERAGE EARNINGS IN LUMBER.

Rate per day.....	CLASS.	Number .....	Earnings of each class per day ..	Earnings of each class for year..	Actual ave. earnings for year
\$2 50	Foremen .....	186	\$465 00	\$123,253 37	\$662 59
2 25	Skilled workmen.....	920	2,070 00	548,677 49	596 38
1 50	Laborers.....	710	1,065 00	282,291 14	397 59
50	Youth, &c.....	46	23 00	6,095 00	132 50
Totals of census returns.....		1,862	3,623 00	960,317 00	.....

This table shows an average of 265 days worked in the year. As we have no information as to the employment of apprentices here, we assume the youth to be errand boys and the like.

The census return in the matter of sawed lumber, which is the subject of the return from Williamsport, gives the following figures :

Number of establishments.....	3,738
Do....hands employed.....	17,424
Do....males above 16.....	17,275
Do....females above 15.....	15
Do....youth.....	134
Total wages paid.....	\$5,260,076 00

A test of the wages as given in the Williamsport return as an average for the State, would show that only four months' work was done in the census year; this is just half the time named in the return, and proves that the wages paid over the State will average at least 40 per cent. less than is here given as prevailing at Williamsport. The table below shows 171 days and a fraction over as the average time worked at these wages in the year.

CLASSIFICATION, WAGES AND AVERAGE EARNINGS FOR CENSUS YEAR.

Rate per day.....	CLASS.	Number.....	Earnings of each class per day...	Earnings of each class for year ..	Actual avg. earnings for year...
\$2 50	Foremen.....	1,742	\$4,355 00	747,852 22	\$429 25
2 00	Skilled workmen.....	7,864	15,728 00	2,700,878 33	343 44
1 50	Laborers.....	6,250	9,375 00	1,609,913 13	257 58
75	Boys, &c.....	1,568	1,176 00	201,432 32	128 46
Totals of census returns.....		17,424	30,634 00	5,260,076 00	.....

It will be seen that in this classification we have entirely disregarded the statements of the return received, as to the foremen and engineers being employed the whole year. It may be proper to explain, that this is not because we discredit the statements contained therein, for the character of the gentlemen making them, as well as corroborative information, indicate the facts as there stated to be true of Williamsport. But as the operations in this industry are found everywhere throughout the State, and as, where the operations are not so concentrated and extensive, the wages are not so high, we are compelled to modify the rates according to the census returns, and the probabilities as to time worked, in order to carry out the plan we have adopted to present an approximation to the actual average earnings of each class of wage-workers within its borders.



## LIQUORS.

In the manufacture of liquors the only return we have is from one of the principal breweries in Philadelphia. It is as follows:

Superintendent.....	1, at \$8 00 per day.
Clerks.....	3, at 4 00 do.
Coopers.....	6, at 2 50 do.
Engineers.....	2, at 2 50 do.
Draymen.....	12, at 2 00 do.
Cellarmen.....	12, at 2 00 do.
Brewerymen.....	8, at 2 00 do.
Maltsters.....	10, at 2 00 do.
Watchmen.....	2, at 2 00 do.
Wash-housemen.....	4, at 2 00 do.

The census gives the figures in this industry as follows:

Number of establishments.....	246
Do....hands employed.....	1,583
Do....males above 16.....	1,569
Do....females above 15.....	2
Do....youth.....	12
Total wages paid.....	\$773,267 00

We rate in the following table the superintendent and clerks under our general head of foremen, as they evidently sustain that position in this brewery. The coopers and the engineers are the skilled workmen, and of the remainder for the purposes we have in hand we make first and second class laborers and boys, including the women among the latter, for the reasons already given in other trades. We divide them as 7 per cent. foremen, 13 per cent. skilled workmen, 50 per cent. laborers, first class, 25 per cent. laborers, second class, and 5 per cent. boys. We have somewhat reduced the average of foremen's wages, and introduced the second class labor, because we have knowledge of its being a closer approximation to the general average.

CLASSIFICATION, WAGES AND AVERAGE EARNINGS FOR CENSUS YEAR.

Rate per day....	CLASS.	Number.....	Earnings of each class per day...	Earnings of each class for year..	Actual avg. earnings for year...
\$3 50	Foremen.....	110	\$385 00	\$94,894 80	\$862 68
2 50	Skilled workmen.....	206	515 00	126,936 20	616 19
2 00	Laborer's, first class.....	792	1,584 00	390,422 94	492 95
1 50	Laborers, second class.....	396	594 00	146,409 12	369 72
75	Youth, &c.....	79	59 25	14,603 94	184 86
	Totals of census tables.....	1,583	3,137 25	773,267 00	.....

The table shows a little over 246 days, as the average time worked in the year.

SUGAR REFINED.

We have one return from this industry from Philadelphia, which is as follows :

Clerks.....	2 at \$3 00 per day, 52 weeks.
Sugar boilers.....	2 at 5 00 " 52 "
Engineers.....	4 at 3 00 " 52 "
Coopers.....	12 at 3 00 " 30 "
Bosses of gangs.....	2 at 2 50 " 41 "
Teamsters.....	5 at 2 00 " 30 "
Watchmen.....	2 at 2 00 " 52 "
Laborers.....	30 at 2 00 " 30 "

The census gives figures in this industry as follows :

Number of establishments.....	15
Do.....hands employed.....	1,241
Do.....males above 16.....	1,240
Do.....youth.....	1
Total wages paid.....	\$663,408 00

Upon these data we make the following exhibit, guided by the same general considerations as have controlled our estimates in other industries :

CLASSIFICATION, WAGES AND AVERAGE EARNINGS FOR CENSUS YEAR.

Rate per day....	CLASS.	Number .....	Earnings of each class per day...	Earnings of each class for year...	Actual avg. earnings for year...
\$3 00	Foremen or clerks.....	37	\$111 00	\$29,115 71	\$786 91
3 15	Skilled workmen.....	211	664 65	174,340 91	826 26
2 00	Laborers, first class.....	621	1,242 00	325,782 53	524 60
1 50	Laborers, second class.....	310	465 00	121,971 70	393 45
75	Youth, &c.....	62	46 50	12,197 15	196 40
Totals of census returns.....		1,241	2,529 15	663,408 00	.....

## PRINTING AND PUBLISHING.

We have received three returns of this industry—one from Philadelphia, one from Wilkesbarre and one from Lancaster.

## PHILADELPHIA.

Foremen.....	5, at \$4 50 per day.
Pressmen.....	3, at 3 17 do.
Compositors.....	14, at 2 60 do.
Engineer.....	1, at 2 67 do.
Wareroom men.....	2, at 2 00 do.
Press feeders, boys.....	11, at 1 00 do.
Apprentices.....	14, at 75 do.

## WILKESBARRE.

Clerk.....	1, at \$3 00 per day.
Foreman.....	1, at 2 50 do.
Apprentices.....	2, at 87 do.

## LANCASTER.

Foremen.....	7, at \$3 00 per day.
Compositors, men.....	35, at 2 00 do.
Do.....women.....	5, at 1 00 do.
Do.....apprentices.....	41, at 42 do.
Folders, women.....	30, at 38 do.
Bookbinders, men.....	2, at 2 00 do.
Do.....apprentices.....	5, at 33 do.
Pressmen.....	2, at 3 00 do.
Do.....women.....	3, at 38 do.
Do.....apprentices.....	6, at 60 do.

The first of these returns is of a book and job printer; the second a newspaper, publisher, printer, bookbinder and stationer; the third, a printing and publishing company. As these include all the divisions given in the census, we consider them altogether. The following are the census figures:

Printing and publishing (not specified) establishments....	77
Do....hands employed.....	3,117
Do....males above 16.....	2,664
Do....females above 15.....	307
Do....youth.....	146
Do....total wages paid.....	\$2,054,975 00



Printing and publishing book establishments.....	2
Do....hands employed.....	16
Do....males above 16 .....	14
Do....females above 15.....	2
Do....total wages paid.....	<u>\$6,625 00</u>
Printing and publishing newspaper establishments.....	124
Do....hands employed.....	1,199
Do....males above 16 .....	1,018
Do....females above 15.....	66
Do....youth.....	115
Do....total wages paid.....	<u>\$673,084 00</u>
Printing and job establishments .....	104
Do....hands employed.....	1,032
Do....males above 16 .....	786
Do....females above 15.....	116
Do....youth.....	130
Do....total wages paid.....	<u>\$460,965 00</u>

As these several divisions are so intimately connected with each other, the differences between them (with the exception of the book business) so trifling, and in that the amount so small as not to affect the whole average appreciably, we consolidate them and present them as one.

The total number of establishments are.....	307
Do.....do.....hands .....	5,364
Do.....do.....males above 16.....	4,482
Do.....do.....females above 15.....	491
Do.....do.....youth.....	391
Total wages paid in all.....	<u>\$3,195,649 00</u>

An examination of the returns given above will show that out of 187 employees, there are of the whole 7 per cent. foremen at \$3 50 per day, 31 per cent. skilled workmen at \$2 25 per day, 42 per cent. apprentices at 60 cents per day, and 20 per cent. females at 47 cents per day.

We believe this proportion of apprentices to be too large, and the compensation of the females to be too small. In making our table, we reduce the percentage of apprentices to 20, and put that of women to 10 per cent., while we estimate their average pay at \$1 00 per day. We also increase the rate of skilled workmen's pay to \$2 50 per day, as a nearer average.

# MANUFACTURING INDUSTRIES.

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## CLASSIFICATION, WAGES AND AVERAGE EARNINGS FOR YEAR.

Rate per day....	CLASS.	Number.....	Earnings of each class per day...	Earnings of each class for year ..	Actual avg. earnings for year...
\$3 50	Foremen.....	322	\$1, 127 00	\$302, 434 62	\$939 25
2 75	Skilled workmen .....	3, 433	9, 440 75	2, 533, 459 96	737 97
1 00	Females above 15 .....	536	536 00	143, 776 98	268 24
75	Apprentices and youth.....	1, 073	804 75	215, 977 44	201 29
	Totals of census returns.....	5, 364	11, 908 50	3, 195, 649 00	.....

At the rates and classifications here exhibited the average time worked was a small fraction over 268 days.

Below we give a recapitulation table of all the manufacturing industries of which we have received returns, as shown in the preceding pages.

## CLASSIFICATION, WAGES AND EARNINGS IN MANUFACTURING INDUSTRIES FOR WHICH RETURNS HAVE BEEN RECEIVED.

CLASS.	Percent's of the whole number,	Number.....	Avg. daily wages	Earnings of each class per day...	Earnings of each class for year ..	Actual avg. earnings for year...
Foremen.....	5	7, 836	\$2 88.4	\$22, 602 93	\$5, 137, 451 58	\$655 62
Skilled workmen .....	37	57, 125	2 42.5	138, 452 58	33, 262, 621 54	582 27
Laborers, first class.....	15	22, 601	1 82	41, 187 11	10, 684, 108 87	472 72
Laborers, second class..	20	29, 595	1 50	44, 496 90	10, 833, 052 75	366 04
Females above 15.....	11	16, 476	1 03	17, 012 85	3, 639, 174 92	220 87
Youth, apprentices, &c..	12	17, 758	68	12, 140 20	2, 899, 639 34	163 28
	.....	151, 391	.....	275, 892 57	66, 456, 049 00	.....

This shows the results reached upon the basis we have adopted, (and which is explained by the tables presented in the preceding pages,) for all the manufacturing industries of which we have received any returns.

An examination of the census return will show that the percentage of females of the total hands employed in such industries in the State is 13 per cent., while in those included in our returns they are only 11 per cent. We do not, however, regard this difference as of sufficient importance to affect our approximation materially, and therefore in the following table of approximate totals, we preserve the proportions indicated in the last table. The grand totals of the census in manufacturing industries are as follows :  
 Total number of establishments..... 37,200  
 Total number of hands employed..... 319,487

Total number of males above 16 ..... 256,543

Total number of females above 15..... 43,712

Total number of youth..... 19,232

Total wages paid..... \$127,976,594 00

These classified and rated as per the last table and explanations will show the approximate result for the State.

CLASSIFICATION, WAGES AND EARNINGS IN MANUFACTURES FOR THE STATE.

CLASS.	Percentages of the whole number...	Total hands employed.....	Avg. daily wages..	Earnings of each class per day.....	Earnings of each class for year....	Actual avg. earnings for year.....
Foremen, &c.....	5	15,974	\$2 88.4	\$46,069 01	\$10,199,145 15	\$638 48
Skilled workmen.....	37	118,210	2 42.5	286,659 25	63,463,038 27	536 87
Laborers, first class. ....	15	47,924	1 82	87,221 68	19,309,871 05	402 92
Laborers, second class..	20	63,897	1 50	95,845 50	21,219,084 18	332 08
Females above 15.....	11	35,144	1 03	36,198 32	8,013,888 48	228 03
Youth, apprentices, &c.,	12	38,338	68	26,069 84	5,771,566 87	150 54
Totals of census tables .....		319,487	.....	578,063 60	127,976,594 00	.....

General average daily wages, \$1 80; general average time worked, 221 days.



## DOMESTIC SERVANTS.

The census gives for Pennsylvania, under the head of domestic servants, 84,343. These we assume to be mainly, if not entirely, females. Very few men are employed in our State in capacities that would lead to their being returned in the census blanks as domestic servants, inasmuch as those who would otherwise be so reported are given as agricultural laborers, hostlers, &c. As to the rates of compensation received by domestic servants—this is more difficult to determine. In the large cities, competent and well conducted servants frequently are paid as much as \$4 per week, in addition, of course, to their board, while it is probably very near the mark to say \$2 00 per week would be the average for adults. This estimate would, nevertheless, be too high to apply to the whole, inasmuch as a very considerable proportion of them are young girls, who may be regarded as learners, and child nurses, whose compensation is from 50 cents to \$1 00 per week. The compensation of servants depends also very largely upon the circumstances of the employers, their ability to pay and fastidiousness as to the quality of the service required. Nor is it of very great importance, in the inquiry we are making, whether our estimate is too high or too low, because the condition of servant, as it is understood in this State, is not to be regarded in any general sense as a permanent one ; being assumed almost invariably as a temporary expedient, a means of bridging over an exceptional pecuniary difficulty, and sometimes, though not nearly so often as it should be, as the means of acquiring a knowledge of practical house-keeping, that will fit the person so learning to fill with credit to herself and blessing to her family her future relation of wife and mother. Throughout the country districts the wages of domestic servants, under the same general conditions, may be put at \$1 00 per week, with board. We believe from our observation and information derived from inquiry, that an estimate of \$1 25 per week for the whole State will not be far from the truth. For the reasons given here we do not include this class in our recapitulations.

AGRICULTURAL LABORERS.

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The number of agricultural laborers is put by the census at 68,897. To a considerable extent the remarks applied to the subject of domestic servants will also apply to these. The occupation of farm laborers is not to an appreciable degree adopted as a profession or life's pursuit in this State, but only as a preparation or intermediary stage to the business of farming or some other gainful pursuit. The wages of adult farm laborers vary from \$12 00 to \$20 00 per month and found, as it is called ; in other words, with board ; and of youth, from \$3 00 to \$8 00 per month, with board likewise. In the busy seasons, as harvest time, &c., the daily wages of extra hands will often reach as much as is paid to ordinary skilled workmen ; but as this is only for a short time, and regular hands of the farm are usually engaged by the month and sometimes by the year, and as these temporarily employed hands are also transitory residents, and often the skilled workmen, mechanics, &c., of the neighborhood, they will hardly have been reckoned in the enumeration of this class of workmen in the census return. We, therefore, estimate the average daily earnings of this class of workmen upon the basis for the whole State of, say \$16 00 per month and found. In order to determine somewhat nearly the proportion their earnings bear to those of other laborers, we must add to the monthly wages the value of the additional compensation they receive in the way of board and lodging, and even generally, if not always, washing.

This, again, cannot be predicated upon the cost of the accommodation to the employer, but upon the charges usually made by those who furnish such accommodations by keeping boarding houses, either exclusively, or as incidental to their other pursuits. In the cities, and large industrial districts, such as the mining regions, &c., the usual charge in workmen's boarding houses may be put at \$5 00 per week in the census year ; it is somewhat less now, probably about an average of \$4 50. Away from these more crowded and busy quarters the charges would be lower. We are inclined to put the average over the State at, say \$3 00 per week. This would bring the annual compensation of this class of laborers, supposing full time to be made up to \$348 00 per year. But making deduction for the usual deficiency of time made, we may set them down at \$300 per year, and class them among second class laborers.

## BOOK-KEEPERS, ACCOUNTANTS AND CLERKS IN STORES, &amp;C.

The census tables of occupations give the following figures :

Book-keepers and accountants in stores .....	2,240
Clerks in stores.....	20,467
Salesmen and saleswomen.....	5,772
	<hr/>
	28,479
	<hr/>

In these occupations, we have no data to go upon except common report. We received one return from Philadelphia, but it is very incomplete, simply saying they are not manufacturers, but jobbers in straw and millinery goods. Their salesmen, of whom they employ five, they pay according to what they sell. Their saleswomen, of whom they employ nine, from learners to experienced hands, earn from \$2 to \$8 per week, while they employ from four to eight milliners in seasons of from six to nine months in the year, who earn from \$4 25 to \$12 per week.

Mr. Blodget, in his essay before alluded to, puts the pay of accountants in the city of Philadelphia, at from \$2 to \$3 50 per day.

There can be no doubt, but that the skilled workmen in mechanical and manufacturing occupations, are better paid than the masses of those who are called clerks in stores. The fancied greater ease and gentility of the life of the merchant over that of the mechanic, is probably the principal cause of a competition for such employment, that effectually closes the door to adequate compensation, while a small proportion of the whole who, through their superior ability and aptness, are valuable employees, receive full and sufficient compensation; common report and representation are very wide of the mark if the great majority are not very poorly paid. In our estimate, we put the wages as near the truth as we have the means of approximating it.

We estimate one-third of the book-keepers to be first class, say at an average of \$4 per day, or \$1,200 per year; two-thirds at \$2 50 per day, or \$750 per year.

Of clerks in stores we will call 33 per cent. first-class, at an average of \$2 00 per day; 50 per cent. second-class, at \$1 25 per day, and 17 per cent. youth, at say, 50 cents per day.

Of salesmen and saleswomen we make the proportions of male and female the same as in the Philadelphia return, viz: 35.7 per cent., males at \$1 50 per day; 64.3 per cent., females at 86 cents per day. This, of course, is



liable to the charge of being mere speculation, and yet we have strong conviction that thorough and authoritative inquiry would demonstrate that it is rather above than below the average.

Our exhibit then would be as follows :

Book-keepers, &c....	1st class....	747....at per year....	\$1,200 00
Do.....	2d class....	1,493.....do.....	750 00
Clerks .....	1st class....	6,754 .....do.....	600 00
Do.....	2d class....	10,234 .....do.....	375 00
Do.....	Youth.....	3,479 .....do.....	150 00
Salesmen.....		2,060 .....do.....	450 00
Saleswomen.....		3,712 .....do.....	<u>258 00</u>

## EMPLOYEES OF RAILROAD COMPANIES, &amp;C., (NOT CLERKS.)

The census gives the following figures under the above heading :

Employees of railroad companies, (not clerks,).....	18,081
Do.....street railroad companies, (not clerks,).....	1,348
Do.....telegraph companies, (not clerks,).....	1,210
Total number of employees .....	20,639

Of the employees of railroad companies, we assume that there are included engineers, firemen, conductors, brakemen and baggage masters, and laborers on repairs. In the absence of any information on the subject, other than is derived from general observation, we divide these between the five classes, as 15 per cent. each, of the three first, 35 per cent. of the fourth and 20 per cent. of the fifth.

Of employees of street railway companies, it is to be assumed that they represent the conductors, drivers, stablemen and laborers on road repairs. These we divide equally between the three classes.

Of the telegraph companies' employees, we assume are included those having charge of repairs, their laborers and messengers, who are youth. These we divide as 20 per cent. foremen, or supervisors of divisions; 50 per cent. laborers, and 30 per cent. messengers, who are mainly youth.

In the matter of wages, we have only common report to guide us. How near, alike in classification and wages we have been able to come to the truth, we must leave to those who are better informed to determine.

## RAILROAD EMPLOYEES.

Upon the plan we have proposed, the following will be the exhibit in these employments, on an estimate of 275 days average time worked in the year :

Engineers.....	2,712, at \$3 00 per day average,	\$825 00
Firemen.....	2,712, at 2 00 .....do.....	550 00
Conductors.....	2,712 at 2 75 .....do.....	765 25
Brakemen and baggagemasters..	6,328, at 1 75 .....do.....	481 25
Laborers.....	3,617, at 1 50 .....do.....	412 50

## EMPLOYEES OF RAILROADS, &amp;C.

## STREET RAILWAYS.

Conductors.....	449, at \$2 25 per day average,	\$618 75
Drivers .....	449, at 2 00 .....do.....	550 00
Laborers.....	450, at 1 50 .....do.....	412 50

## TELEGRAPH COMPANIES EMPLOYEES.

Foremen.....	242, at \$2 50 per day average,	\$687 50
Laborers.....	605, at 1 50 .....do.....	412 50
Youth.....	363, at 75 .....do.....	206 25

These will end our extracts from the census tables of occupations, not because they present even an approach to the total wage-working population of the State in numbers, but because they are all the classes that are sufficiently defined as to their character to enable us to use them in illustration of the exhibit we desire to make. Of the remainder, the return is made in such manner that, with the means at our disposal, we cannot find the data upon which to base a division of the wage-workers from the whole number. There are given as being engaged in all occupations in the State 1,020,544 persons over ten years of age. When it is remembered that there are included in this number all the proprietors of every kind of business, and all persons engaged in the professions, it will be conceded that the number we present is a very fair representation of the vast army of workers, whose sturdy efforts, persistently applied, are rapidly pushing forward the position of the Commonwealth to the first place, as to wealth and population; and may we not reasonably hope, under the influence of growing intelligence, in virtue and wisdom, in the galaxy of States. We now present a recapitulation of the whole of our inquiries, giving columns of classes, numbers, daily wages, estimated days worked, daily earnings of each class in each trade, annual earnings of the same, and actual annual average earnings of each individual of each class. We give all the figures, that those interested may see the method by which we reach our conclusions.



# RECAPITULATION OF CLASSIFICATION.

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## RECAPITULATION OF CLASSIFICATION, WAGES AND EARNINGS FOR THE STATE.

### FOREMEN, FULL TIME HANDS, &C.

CLASS.	Number.....	Daily wages....	Days worked....	Daily earnings of each class.....	Annual earnings of each class...	Actual av'ge annual earnings..
Mining.....	6,210	\$3 08	289.3	\$19,126 80	\$5,533,383 24	\$891 20
Manufacturing.....	15,974	2 88.4	221	46,069 01	10,181,251 21	637 36
Book-keepers, &c., 1st class	2,240	3 00	300	6,720 00	2,016,000 00	900 00
Engineers, railroad.....	2,712	3 00	275	8,136 00	2,237,400 00	825 00
Conductors.....	2,712	2 75	275	7,458 00	2,050,950 00	756 25
Totals and general avgs.	29,848	2 93	251.6	87,509 81	22,018,984 45	737 70

### SKILLED WORKMEN.

Mining.....	36,368	\$3 00	192.5	\$109,104 00	\$21,002,520 00	\$577 50
Manufacturing.....	118,210	2 42.5	221	286,659 25	63,351,694 25	535 92
Book-keepers, &c., 2d class	6,754	2 00	300	13,508 00	4,052,400 00	600 00
Firemen, railroad.....	2,712	2 00	275	5,424 00	1,491,600 00	550 00
Brakemen, &c.....	6,328	1 75	275	11,074 00	3,045,350 00	481 25
Conductors, 2d class.....	449	2 25	275	1,010 25	277,818 75	618 75
Drivers of cars.....	449	2 00	275	898 00	191,950 00	427 50
Foremen telegraph.....	242	2 50	275	605 00	166,375 00	687 50
Totals and general avgs.	171,512	2 49.7	218.5	428,282 50	93,579,708 00	545 61

### LABORERS—FIRST CLASS.

Mining.....	16,140	\$2 14	194.1	\$34,539 60	\$6,704,136 36	\$415 37
Manufacturing.....	47,924	1 82	221	87,221 68	19,275,991 28	402 22
Railroad laborers.....	3,617	1 50	275	5,425 50	1,492,012 50	412 50
Street railroad laborers...	450	1 50	275	675 00	185,625 00	412 50
Telegraph laborers.....	605	1 50	275	907 50	249,562 50	412 50
Salesmen in stores.....	2,060	1 50	300	3,090 00	927,000 00	450 00
Totals and general avgs.	70,796	1 86.2	218.7	131,859 28	28,834,327 64	407 42

### LABORERS—SECOND CLASS.

Mining.....	12,396	\$1 77	180.7	\$21,940 92	\$3,964,724 24	\$319 84
Agricultural laborers.....	68,897	1 50	200	103,345 50	20,669,100 00	300 00
Manufacturing.....	63,897	1 50	221	95,845 50	21,181,855 50	331 50
Clerks, second class.....	10,234	1 25	300	12,792 50	3,837,750 00	375 00
Totals and general avgs.	155,424	1 50.5	212.2	233,924 42	49,653,429 74	319 47

### FEMALES.

Manufacturing.....	35,144	\$1 03	221	\$36,198 32	\$7,999,828 72	\$227 63
Saleswomen.....	3,712	86	300	3,192 32	957,696 00	258 00
Totals and general avgs.	38,856	1 01.3	277.4	39,390 64	8,957,524 70	230 53

### APPRENTICES AND OTHER YOUTH.

Mining.....	9,646	\$ 90.4	173	\$8,719 98	\$1,508,556 54	\$156 39
Manufacturing.....	38,338	68	221	26,069 84	5,761,434 64	150 28
Clerks.....	3,479	50	300	1,739 50	521,850 00	150 00
Telegraph messengers, &c.	363	75	275	272 25	74,868 75	206 25
Totals and general avgs.	51,826	71	213.7	36,801 57	7,866,709 93	151 79
Grand totals.....	518,262				210,910,684 46	

It is seen by the foregoing table that, according to our approximation, there are

29,848 males, whose average earnings per year are.....	\$737 70
171,512 males.....do.....do.....do.....do.....	545 61
226,220 males.....do.....do.....do.....do.....	346 95
38,856 females.....do.....do.....do.....do.....	230 53
51,826 youth.....do.....do.....do.....do.....	151 79

We now estimate that, say 30 per cent., of the females are working for their own individual support, as distinct from those whose labor goes to aid in the support of families, while we will say 20 per cent. of youth may be put in the same category. After these are deducted the earnings of the remainder go to swell the earnings of the heads of families among the several classes of male workmen. Of these we put none to the credit of full time hands, &c., because, from the fact that they are better paid, the necessity does not exist for aid from such sources. We must also make an allowance for the proportion of male workmen who have families to those who are single and work for themselves alone. We assume the latter to be of skilled workmen 15 per cent., and of laborers 25 per cent. This estimate will give heads of families among skilled workmen 145,786, and 25,726 single men; among laborers it will give as heads of families 169,665, and 56,555 single men. This shows an excess of laborers' families over the families of skilled workmen of 23,879, or about 14 per cent.; but as from the more liberal incomes of skilled workmen, the necessities are not so great, we estimate that a much smaller number resort to the earnings of wives and children to add to the means of family support, and we therefore increase this difference by 16 per cent., giving to laborers' families 70 per cent. of the earnings of females and youth, (reduced as before mentioned,) and 30 per cent. to skilled workmen. Our conclusions will thus make the following exhibit:

Foremen and full time hands.....	29,848....	yearly earnings, \$737 70
Skilled workmen with families.....	135,786.....	do..... 571 47
Skilled workmen single.....	25,726.....	do..... 545 61
Laborers with families.....	169,665.....	do..... 398 78
Laborers single.....	56,555.....	do..... 346 95
Females, single.....	11,656.....	do..... 230 53
Youth, self-supporting.....	10,365.....	do..... 151 79

In adopting the plan here presented of approximating the actual average annual earnings of the different classes of wage workers, we have been governed by the consideration that the importance of determining, as nearly as possible, the earnings of the people is greater than a comparison of quoted

wages. In the Massachusetts report their statements are generally based upon the latter. But the practicability of reaching reliable conclusions, through means of the five thousand dollars they had to expend in payment for *bona fide* returns and inquiries, gave them a very great advantage over this Bureau with its very small appropriation for such purposes.

We know that the results reached are peculiarly open to criticism at the hands of those who do not understand the subject, or who would prefer that the question should not be raised at all; but we feel equally sure that to the thoughtful student of *politico-social* economy, who is well enough informed to realize the gravity of the situation, and brave and humanitarian enough to wish for and seek a remedy, they will be suggestive and helpful. The only suggestion we wish to add is, that if it is conceded that they are too speculative, that the classification of the workmen is erroneous, and presents too large a proportion of underpaid workmen, still, any alteration that can be made within reason or probability, will not increase the general average earnings more than forty or fifty dollars per year.

Now, a few extracts from the Massachusetts Labor Report will serve as criterion by which to test the general correctness of the conclusions we have reached. It will be noted that the tables we extract are made up from returns actually received from employers, and give their showing of the matters contained in them. They are taken from the volume for 1871, because that comes nearest to the time for which our approximation is made.

\* These extracts from the Massachusetts report will also be valuable as illustrating the uselessness as statistical information, of those comparisons of quoted wages, between this and other countries, so much delighted in by its present management.

These, which are actual returns, show almost the same results as we reach from the census report; inadequate compensation. How nonsensical the boast that higher wages are paid here than in foreign countries. If their workmen were roasted, would it be a source of gratulation to us that ours were only boiled?



## RECAPITULATION OF CLASSIFICATION.

MECHANICAL TABLE No. III.—WAGES, ETC.

Number of blank	BUSINESS.	Number of employees.	Native	Foreign	Men	Young persons	AVERAGE DAY WAGES.								Total amount paid from January 1, to July 1, 1870.	
							Foreman	Engineer	Laborer	Moulder	Apprentice	Foundry men	Pattern maker	Machinist		Blacksmith
1.	Agricultural tools	45	18	27			\$4 50	\$2 50	\$1 75			\$1 80		\$2 00	\$2 11	\$13,018 00
2.		50	36	14					1 50		\$1 12			2 75	3 00	19,002 00
3.		157						3 75				1 25		2 08	2 50	
4.		288						3 00						2 25		
5.		75												2 18		
6.	Anchors	52	22	27								1 06		2 40	2 50	33,920 74
7.		107	40	67	93	14								2 70	3 25	37,357 30
8.		11	4	7										3 31	3 25	3,547 15
9.	Boiler makers	15	3	12					1 75					2 00	2 00	1,504 67
10.		37	15	22					1 66					2 50		8,742 46
11.		20	7	13										2 37		8,552 66
12.	Brass, bronze and copper.	68	38	30					1 55	1 62		1 75		1 89		15,593 31
13.		66	10	56							1 00	2 50		3 35		18,350 00
14.		275	183	92	6	4	4 00				1 00	3 00				72,000 00
15.	Foundry and castings.	10	7	3	6	2					1 25			2 42		3,432 00
16.		11	10	1	9									2 05		2,765 97
17.		24	5	19	18	8						2 25		2 25		5,923 16
18.	Wire goods.	27	10	17	718	66			1 50	2 50	1 00			2 17		7,798 21
19.		843	115	718	12	3			2 75	1 08	1 00		\$3 00	2 91	2 00	540,000 00
20.		15			68	8										2,910 78
21.	Foundry.	76												2 91	2 00	9,488 27
22.		65	25	40										1 83		1,592 66
23.		20	18	2					1 60	2 75	1 00		2 75	2 50		7,200 00
24.	Bells	27	18	9										2 00		21,550 00
25.		14	12	2				3 50		2 75	1 00			2 00		20,301 08
26.		82	37	45	75	7								2 00		3,000 00
27.	Stove castings	14	11	3					1 75	3 50				2 81		
28.		50	30	20	46	4	4 50	2 00	1 75	3 90	1 50		2 75	2 81	2 00	

# RECAPITULATION OF CLASSIFICATION.

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29..	80	20	60	2 00	2 75	1 62	2 75	1 25	2 45	2 48	20,821 26
30..	34	10	24	2 25	1 70	1 50	1 25	3 00	3 00	3 37	11,232 00
31..	32	13	11	2 25	1 50	1 66	2 25	1 75	2 08	2 25	11,885 31
32..	32	12	20	2 25	1 50	1 66	2 25	1 75	2 08	2 25	30,000 00
33..	69	19	50	6 00	2 50	1 66	2 25	1 75	2 08	2 25	20,937 57
34..	100	12	18	23	2 25	1 66	2 25	1 75	2 08	2 25	29,598 00
35..	50	35	15	23	2 25	1 66	2 25	1 75	2 08	2 25	8,000 00
36..	121	62	121	4 80	2 75	2 00	2 75	1 75	2 08	2 25	6,000 00
37..	29	25	4	3 53	2 88	1 45	2 75	1 75	2 08	2 25	14,500 00
38..	27	25	2	1	2 00	1 50	2 50	1 75	2 08	2 25	3,557 84
39..	148	8	140	3 00	2 00	1 50	2 50	1 75	2 08	2 25	6,581 89
40..	30	15	15	2 00	2 00	1 50	2 50	1 75	2 08	2 25	1,586 00
41..	80	25	55	3 00	2 00	1 50	2 50	1 75	2 08	2 25	9,800 00
42..	14	13	1	3 00	2 00	1 50	2 50	1 75	2 08	2 25	13,686 00
43..	26	6	20	3 00	2 00	1 50	2 50	1 75	2 08	2 25	6,468 93
44..	12	10	2	3 00	2 00	1 50	2 50	1 75	2 08	2 25	44,881 00
45..	31	47	8	3 08	2 25	1 68	2 52	4 00	2 64	2 50	57,276 00
46..	55	9	6	3 08	2 25	1 68	2 52	4 00	2 64	2 50	8,670 90
47..	15	83	23	3 08	2 25	1 68	2 52	4 00	2 64	2 50	10,000 00
48..	106	91	96	3 08	2 25	1 68	2 52	4 00	2 64	2 50	46,700 37
49..	187	16	3	3 08	2 25	1 68	2 52	4 00	2 64	2 50	24,800 00
50..	19	13	7	3 08	2 25	1 68	2 52	4 00	2 64	2 50	28,800 00
51..	20	13	7	3 08	2 25	1 68	2 52	4 00	2 64	2 50	189,369 36
52..	161	11	10	3 08	2 25	1 68	2 52	4 00	2 64	2 50	7,500 00
53..	21	163	212	3 08	2 25	1 68	2 52	4 00	2 64	2 50	11,160 00
54..	375	80	20	3 08	2 25	1 68	2 52	4 00	2 64	2 50	120,000 00
55..	100	50	25	3 08	2 25	1 68	2 52	4 00	2 64	2 50	24,000 00
56..	75	50	25	3 08	2 25	1 68	2 52	4 00	2 64	2 50	179,031 73
57..	548	290	258	3 08	2 25	1 68	2 52	4 00	2 64	2 50	38,457 30
58..	25	23	2	3 08	2 25	1 68	2 52	4 00	2 64	2 50	14,195 00
59..	18	6	12	3 08	2 25	1 68	2 52	4 00	2 64	2 50	818 82
60..	275	200	25	3 08	2 25	1 68	2 52	4 00	2 64	2 50	21,044 06
61..	62	44	40	3 08	2 25	1 68	2 52	4 00	2 64	2 50	15,342 00
62..	632	421	211	3 08	2 25	1 68	2 52	4 00	2 64	2 50	225,635 00
63..	110	100	25	3 08	2 25	1 68	2 52	4 00	2 64	2 50	6,699 00
64..	125	55	5	3 08	2 25	1 68	2 52	4 00	2 64	2 50	7,071 50
65..	60	26	8	3 08	2 25	1 68	2 52	4 00	2 64	2 50	
66..	34	26	8	3 08	2 25	1 68	2 52	4 00	2 64	2 50	
67..	74	26	48	3 08	2 25	1 68	2 52	4 00	2 64	2 50	
68..	41	33	8	3 08	2 25	1 68	2 52	4 00	2 64	2 50	
69..	750	358	9	3 08	2 25	1 68	2 52	4 00	2 64	2 50	
70..	15	9	6	3 08	2 25	1 68	2 52	4 00	2 64	2 50	
71..	33	12	21	3 08	2 25	1 68	2 52	4 00	2 64	2 50	

## RECAPITULATION OF CLASSIFICATION.

MECHANICAL TABLE No. III.—WAGES, ETC.—Continued.

Number of blank....	BUSINESS.	No. of employees..	Native.....	Foreign.....	Men.....	Young persons.....	Foreman.....	Engineer.....	Laborer.....	Moulder.....	Apprentice.....	Foundry men..	Patternmaker...	Machinist.....	Blacksmith.....	Total amount paid from January 1, to July 1, 1870.....
72..	Machinery—Continued.....	96	20	76			\$4 80		\$1 65	\$2 25	\$1 00	\$2 75	\$3 50	\$2 75	\$2 50	\$17,796 53
73..		60	48	12					1 75	2 50				2 75		8,000 00
74..		272	136	136					1 50	1 97	1 00		2 75	1 86	2 50	74,343 04
75..		28	20	8			4 60		1 23	2 50		1 89	2 90	2 50	2 37	
76..		97		50							1 00			2 50		20,423 00
77..		20	19	1					1 50	3 25	1 30	3 25	3 37	2 60		4,500 00
78..		280	245	35			5 50		1 87				2 50	2 41	2 75	108,000 00
79..		32	29	3											2 50	9,101 88
80..		100	81	19											2 25	26,444 59
81..		96	44	52											2 25	21,369 48
82..	Cotton gins.....	44	27	17	34	9		\$1 50	1 50	2 75				3 00		8,062 31
83..		60	45	15	69			2 00	1 67			2 25		3 00		21,000 00
84..		71	66	5										2 69		
85..	Iron works.....	70												2 87		23,139 94
86..		250	83	167					1 53	2 00				2 25		35,860 99
87..		45	42	3	20	16	2 75	2 00	1 77					2 48		8,734 59
88..		300		300				1 10	1 62	4 50		4 00		2 53	1 75	85,131 42
89..	Tacks and nails.....	36	18					1 73						2 22	2 50	12,863 26
90..		85	87	98					1 67		1 00			2 08	3 50	51,850 79
91..		300	200	100	2 00	20			1 50					2 87		7,500 00
92..		50	44	6										2 00	4 00	14,701 00
93..	Tin and sheet iron.....	75	75		33	35		2 25		2 00	75	1 50		2 21		133,617 89
94..		520							1 53					2 25		
95..		165	145	20	95	30			2 00		75			2 31	3 00	
96..		17	121	17	14	3			2 33		1 00			2 31	2 37	30,136 76
97..		138							1 25							
		10,716	6,573	3,398	2,300	649										3,056,025 63

Average amount paid per day to each person employed, \$2 18.



As a result of these tables we may note that they report \$2 18 to be the average daily wages paid each person employed, and reckoned upon the amount paid each person for the six months, \$285 18, will show an average of 130 days to have been worked. This is substantially a close corroboration of the correctness of our tables, both as to classification, wages and actual average annual earnings, for included in these returns are all the foremen, who, in our tables, are classed among the full time hands, or those whose time goes on steadily whether business is full or lax, whether machinery is running smoothly or is broken, whether agreement exists between employer and employed, or the work is idle in consequence of contest. Suppose, for the sake of the illustration, we try to present these results in the same form as ours, and see what the result will be. It will be seen that as these returns are made there are only a few of them in which foremen, as such, are named, and their wages given. Yet it is no violent assumption to say that the number of foremen, or persons that we have classified as such, will be one in twenty, or 5 per cent. of the whole.

We will take of the whole number given..... 10,716

For Foremen.....	5 per cent. of the men, or.....	503
Skilled workmen, 75 .....	do.....do.....	7,550
Laborers.....	20.....do.....do.....	2,014
Young persons, the number returned. ....		649

We propose to pay these several classes at the averages of the rates of wages given as paid to the several classes in the tables. As to our classification, a reference to the returns to this office, from similar industries in this State, will demonstrate how near right or how far wrong we are in that, thus :

Rate per day....	CLASS.	Number .....	Earnings of each class per day...	Earnings of each class for half year .....	Actual avg. earnings for h/y year,
\$4 09	Foremen .....	503	\$2,057 27	\$268,742 54	\$524 2
2 30	Skilled workmen .....	7,550	17,365 00	2,268,404 95	300 4
1 65	Laborers .....	2,014	3,323 10	434,099 27	215 4
1 00	Youth .....	649	649 00	84,778 87	130 6
Total of Mass. tables.....		10,716	23,394 37	3,056,025 63	.....

When it is taken into consideration that the trades enumerated in these returns are those in which wages are understood to rule the highest in this country, which is made apparent by the wages quoted alike in the returns received at this office, and in those in the foregoing Massachusetts table, the corroboration they furnish of the substantial correctness of our conclu-

sions is peculiarly and strikingly forcible. Our purpose has been in all we have presented thus far, to show as nearly to demonstration as the data would admit, not only what the average earnings of Pennsylvania workmen are, but what proportion of the whole have adequate means of support, and what proportion are inadequately paid. That the results are disappointing, and to some extent alarming, is the least that can be said of them. It has been so long the prevailing custom to speak of our peculiar social and political structure as developing the most beneficent liberality of compensation to the wage-worker ; so long our standing boast that the American workman is the best paid in the world, and the happiest and most contented ; it has been so customary to regard his expressions of discontent, as the effect of the mischievous interference of blatant demagogues, or as the frolicsome or vicious colt-like kickings and insolence of pampered fatness, that the presentation of the hard but unquestionable fact that there is in the State of Pennsylvania a horde of laborers, constituting an army in numbers greater than that of the Potomac when its ranks were fullest, who live and rear their families, in some way, on an average income of less than four hundred dollars per year, must strike upon the consciousness of the thoughtful publicist with startling effect. It would have been a far pleasanter task to have reached results the reverse of these. But if this inquiry is to accomplish any good it must be made with a view to the development of the truth, however unpalatable it may prove to be. We have noticed before, that upon inquiry being made, the wages that are quoted are always higher than are realized as averages ; and this is true, not because of any purpose to mislead, but because the demand for work is almost always greater than the demand for workmen.

It is not then our purpose in this report to charge upon any class intentional misrepresentation, but simply to present the situation as it is. To illustrate : The very excellent and suggestive essay read before the Philadelphia Social Science association, April 25, 1872, by Mr. Lorin Blodget, one of the most thoughtful and experienced statisticians, and one of clearest and most conscientious *politico-social* writers of our day, quotes the wages paid in that city, as he found them to be upon careful, persistent and industrious personal inquiry. So impressed was he with the apparent sufficiency of the wages, and consequent prosperity of the wage-working class, that he is convinced "that a greater than temporary success has been gained, and something far beyond mere monetary triumphs have been secured." And yet, the failure of one speculative establishment in that city, and that one not engaged in productive enterprise, has proved sufficient to spread the terrors of general bankruptcy over the whole country, lock up the circulating medium of the people, stop for a time the wheels of industrial progress, and throw upon their reserves for support a great proportion of this *pros-*

*perous* wage-working population. With what result? Within three weeks the presence of privation became painfully manifest; in four, it stalked ghastly and obtrusive upon the streets; within six, the rumblings of a gathering storm springing from the want and desolation of thousands of unemployed wage-workers, warned the thoughtful and philanthropic to prepare to combat the consequences of extreme poverty among the working thousands.

These facts that are patent to the consciousness of every observant citizen, are additional corroborations of the truthfulness of the lesson our tables of approximation teach; which is simply, that in the greed for material success through inexorable competition, that item of cost being the easiest reached, and the most readily reduced, the measure of wages is made "the dead level of starvation prices." In other words, the worker being present, and perhaps too poor to move, just as much is paid, and no more, as will keep him at his work. This, it is apprehended, is not the deliberate and intended work of any man, or class of men, but the vice of the system. The whole force of our social and educational influences being directed to teaching as the one great purpose of life the acquisition of wealth, every personal ambition, every public aspiration has become tinctured and colored with the vice, until no private act is regarded, no legislative policy debated, except in reference to the bearing it may have upon the promotion of pecuniary success.



## COMPARATIVE RATES OF WAGES AND HOURS OF LABOR IN MASSACHUSETTS AND FOREIGN COUNTRIES.

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The worth, size and importance of things are to be determined largely by comparison. Of course, this rule ought not to apply to conditions of persons with the same positive application; for that one man is badly abused is no reason for saying another less badly treated is treated well; yet, to weigh correctly the condition of a class, it seems to us sound judgment to put the facts concerning one, or a branch of one class, in comparison with those connected with another class or branch of the same. We accordingly present, in this fourth part of our report, the matter properly coming under the above title.

The subject of comparative rates of wages in Massachusetts and foreign countries, from the nature of the case, can be presented but in part; full, so far as it concerns the industries named below, but in part as regards all the industries of the State. The principal data from which we have drawn the rates paid for foreign labor were obtained by the personal investigation and application of the Hon. Edward Young, Chief of the National Bureau of Statistics, Washington, and responsible parties resident in the respective countries working under his instructions. For the purpose of correction or corroboration, we have referred to similar information by H. M. Queen Victoria's consuls, and incorporated by them in reports to their home government.

Some of the figures were furnished us in tabular form; others were contained in letters. The wages were given by day, week, month, season or year, and oftentimes in foreign money values. To collate and systemize these figures, calculate the weekly wages from them, and present it here in American gold values and also on the basis of the paper dollar ("greenback") of 1872, has been the work of this Bureau. To obtain the desired figures in Massachusetts, for comparison, direct personal investigation was made by agents of this Bureau, who were received with uniform courtesy by employers; and in but few instances was any objection made to supplying us with such information as we had deemed needful for our purposes. It is worthy of remark, that of many letters sent to employers for similar information, but few secured any reply whatever. After careful collation of our foreign materials, forty branches of employment were selected as being most complete and most likely to have a similarity in technical subdivisions with our own State's corresponding industries. We subjoin a

list of the occupations selected for comparison as regards rates of wages and hours of labor :

Agricultural labor,	Dressmaking,
Blacksmiths,	Envelopemaking,
Breweries,	Glassmaking,
Bookbinding,	Hat and cap making,*
Bakers,	Iron manufactures,
Brickmaking,	Jute manufactures,
Boots and shoes,	Locomotive engine making,
Boxmaking,	Watchmaking,
Boilers and agricultural machines,	Preserved meats, pickles, etc.,
Brushmaking,	Printing,
Bleaching, dyeing and printing,	Papermaking,
Building trades,	Ropemaking,
Clockmaking,	Rubber manufactures,
Chemical works,	Ship building,
Cabinetmaking and upholstery,	Safe and lockmaking,
Coach, carriage and wagon building,	Soap and candles,
Clothing manufacture,	Type foundries,
Carpetmaking,	Tanners and curriers,
Corsetmaking,	Tobacco and cigars,
Cotton manufactures,	Woolen manufactures.

In many cases where part of the branches of a business, admitted of comparisons and part did not, we have given the latter subdivisions under the heading, "not admitting of comparison;" though in a general sense we deem such matter has no rightful place in a report of this Bureau, for, in our conception of the law constituting it, facts relative to or comparable with Massachusetts, are the only ones legislatively called for. If we had not been governed by this strict interpretation of the law in this one division, we could have swelled the report to an inordinate size. Information in our possession concerning the iron trade of England; Krupp's steel works in Essen, Prussia; the lace trade of Nottingham, England; the cutlery trades of Sheffield, England; the silk manufacturers of Lyons, France; the glove and velvet factories of Germany; the linen manufactures of Scotland and Ireland, and the marble manufactures of Italy, would have made a volume in itself; but as these trades have no corresponding status of importance in our own State, we have deemed them inadmissible, however interesting or valuable they might be to the general reader or student of statistics. Besides the matter just summarized as extraneous, there are in possession of the Bureau (obtained without cost) articles upon "The Drink Traffic of Great Britain;" tables showing the percentage of advance in wages and cost of living in 1873, as compared with 1861, in Stuttgart and



the kingdom of Wurtemberg; "Agricultural Labor in England," and a translation of a comprehensive article, written by Prof. Georges Renaud, upon labor and cost of living in Paris since its evacuation by the Germans. We have adopted the plan, in table 1, of giving the highest wage obtained from our returns, whether home or foreign; also the lowest wage found in them, and such intermediate wages as vary materially from the highest and lowest, grading them according to the amount paid. As far as obtained we deem our rates of wages reliable, and present them in tabular form. We are well aware that no table, that no bare statistics can give the relative condition of classes in different countries, for the habits, customs, tastes and modes of living of one differ from those of another, to as great if not greater degree than the wages of the same class; but with the aid of the department of our work on the purchase-power of money, working people in this State can easily ascertain what condition they would be in in another country, and the laborer or artisan of the Old World can, without much labor on his part, determine his position here, should he be inclined to try his fortunes in the New World. Each must make his calculation as to wages and cost of living on the basis of his own desires. For instance, while in all or nearly all the industries we have given, the employee receives here a much larger income than his fellow in Europe, he will find that his rent, clothing and provisions cost him more; he will find, also, that he receives or consumes more, lives in a better way, has more of the comforts and luxuries of life, so that at the end of the year, while he has but little more, if any, surplus than the European, and has worked no harder, if as hard, he is more of a man and occupies a position some grades higher in the scale of civilization, and has that inestimable blessing denied the foreign laborer, especially the English agricultural workingman, the right and privilege to become a land owner.

If the foreign laborer or mechanic should come to this country and continue to live in the same general meagre way that he did in the old country while he received the wages of the new, he would soon find himself with a surplus that would enable him to place his family in a condition that would be the envy of his old shopmates, but by this the real benefit to himself and family probably would not be equal to that gained by a change of his mode of life, with the prospect of less surplus. It is the real moral and physical condition of a man that makes him more or less of a man, not his property surplus, however desirable the surplus might be. We trust the time will speedily come when he can have both elements to his happiness—moral character and property surplus. While this subject, so far as wages are concerned, furnishes no material of legislative contemplation, it does furnish matter of great interest, not only to employees but to the employer. As regards the hours of labor the facts given certainly form a valuable feature as a basis for action in the regulation of labor in our manufacturing establishments.



TABLE I.—COMPARATIVE RATES OF WAGES.

NOTE.—The following abbreviations are made use of in this table: h. w., for highest wage, m. w. for medium wage, and l. w. for lowest wage. The contractions used of names of countries will be found sufficiently explanatory in themselves. The wages given, in all cases, are those of adult males, unless women, youth or children, are particularly designated. The terms, first grade, second grade, &c., refer simply to the amount of wage received, and have no significance as far as ability or workmanlike qualifications are concerned. The first grade is always the highest wage paid; the last grade given in each case denotes the lowest wage paid. The intermediate grades are, in most cases, the results of careful averaging.

OCCUPATIONS AND COUNTRIES.	AV'GE WEEKLY WAGES.	
	Standard U. S. paper dollar of 1872.....	Standard gold,
<i>Agriculture.</i>		
Laborers, with board, Massachusetts.....	\$6 00	\$5 33
Laborers, without board, England—		
Surrey.....highest wage.....	5 45	4 84
Do.....lowest.....do.....	3 53	3 14
Do..(women,)...highest..do.....	1 63	1 45
Do.....do.....lowest..do.....	1 36	1 21
Do..(children,)..highest..do.....	1 36	1 21
Do.....do.....lowest..do.....	70	62
Kent.....highest..do.....	6 81	6 05
Do.....lowest..do.....	3 53	3 14
Do..(women,)...highest..do.....	2 44	2 17
Do.....do.....lowest..do.....	1 63	1 45
Do..(children,)..highest..do.....	2 17	1 93
Do.....do.....lowest..do.....	81	72
Sussex.....highest..do.....	5 45	4 84
Do.....lowest..do.....	2 99	2 66
Do..(women,)...highest..do.....	1 63	1 45
Do.....do.....lowest..do.....	1 36	1 21
Do..(children,)..highest..do.....	1 66	1 49
Do.....do.....lowest..do.....	54	48
Devonshire.....highest..do.....	4 08	3 63
Do.....lowest..do.....	2 17	1 93
Do..(women,)...highest..do.....	1 22	1 08
Do.....do.....lowest..do.....	1 08	96
Do..(children,)..highest..do.....	1 36	1 21
Do.....do.....lowest..do.....	41	36
Cornwall.....highest..do.....	4 08	3 63
Do.....lowest..do.....	2 99	2 66
Do..(women,)...highest..do.....	1 22	1 08
Do.....do.....lowest..do.....	1 08	96
Do..(children,)..highest..do.....	1 22	1 08
Do.....do.....lowest..do.....	81	72

## COMPARATIVE RATES OF WAGES.

## RATES OF WAGES—Continued.

OCCUPATIONS AND COUNTRIES.	AV'GE WEEKLY WAGES.	
	Standard U. S. paper dollar of 1872.....	Standard gold,
Laborers, without board, England—		
Norfolk.....highest..do.....	\$4 89	\$4 35
Do.....lowest..do.....	2 44	2 17
Do..(women,).....highest..do.....	1 36	1 21
Do.....do.....lowest..do.....	81	72
Do..(children,).....highest..do.....	1 36	1 21
Do.....do.....lowest..do.....	27	24
Lincoln.....highest..do.....	8 17	7 26
Do.....lowest..do.....	4 89	4 35
Do..(women,).....highest..do.....	1 63	1 45
Do.....do.....lowest..do.....	81	72
Do..(children,).....highest..do.....	2 17	1 93
Do.....do.....lowest..do.....	81	72
Laborers, without board, Wales—		
Merthyr Tydfil.....highest wage.....	4 89	4 35
Do.....lowest..do.....	3 26	2 90
Do..(women,).....highest..do.....	1 63	1 45
Do.....do.....lowest..do.....	1 08	96
Do..(children,).....highest..do.....	81	72
Crowbridge.....highest..do.....	5 72	5 08
Do.....lowest..do.....	3 53	3 14
Do..(women,).....highest..do.....	1 63	1 45
Do..(children,).....highest..do.....	1 90	1 69
Do.....do.....lowest..do.....	81	72
Landilsfarve.....highest..do.....	6 53	5 80
Do.....lowest..do.....	2 72	2 42
Do..(women,).....highest..do.....	1 63	1 45
Do.....do.....lowest..do.....	1 08	96
Do..(children,).....highest..do.....	1 08	96
Do.....do.....lowest..do.....	81	72
Conway..(women,)highest..do.....	1 63	1 45
Do.....(children).....do.....	27	24
Laborers, without board, Ireland—		
Men.....highest wage.....	4 91	4 36
Do.....medium do.....	2 49	2 22
Do.....lowest..do.....	1 15	1 02
Do..(harvest,).....highest..do.....	5 74	5 10
Do.....do.....medium do.....	4 93	4 38
Do.....do.....lowest..do.....	3 38	3 00
Women.....highest..do.....	2 45	2 18
Do.....lowest..do.....	1 90	1 69
Laborers, without board, Scotland—		
Shepherds, including gains.....	5 24	4 66
Stewards.....do.....	4 92	4 37
Hinds, including gains.....	4 49	3 99
Bondages, (women,) with board.....	1 46	1 30
food and washing.....	1 89	1 68
Foresters, without board, Scotland—		
Overseers.....	5 72	5 08
Hands.....	4 08	3 63
Laborers, with board, France—		
Men, highest wage.....	2 96	2 63
Do..medium..do.....	1 69	1 50
Do..lowest..do.....	63	56
Women's.....do.....	63	56
Laborers, with board, Germany—		
Women, highest wage.....	75	67
Do.....lowest..do.....	54	48

RATES OF WAGES—*Continued.*

OCCUPATIONS AND COUNTRIES	AVERAGE WEEKLY WAGES.	
	Standard U. S. paper dollar of 1872.....	Standard gold.
Laborers, with board, Prussia—		
Men's wages.....	\$2 85	\$2 53
Women, highest wage.....	93	83
Do...lowest...do.....	56	50
Laborers, with board, Denmark—		
Men, highest wage.....	1 43	1 27
Do...lowest...do.....	1 03	92
Laborers, with board, Russia—		
Men, in summer.....	5 19	4 61
Do...winter.....	3 12	2 77
Laborers, with board, (hired only by the year,) Switzerland—		
Men, highest wage.....	3 47	3 08
Do...lowest...do.....	2 60	2 31
Women, highest wage.....	1 29	1 15
Do...lowest...do.....	1 08	96
Laborers, with board, Italy—		
Men, highest wage.....	3 89	3 46
Do...lowest...do.....	2 34	2 08
Women's wages.....	1 17	1 04
Laborers, with board, Tunis, Continent of Africa—		
Men, highest wage.....	2 34	2 08
Do...lowest...do.....	1 95	1 73
Women's wages.....	1 29	1 15
<i>Blacksmiths.</i>		
Massachusetts—		
In city.....	18 50	16 44
In country.....	15 00	13 33
England—		
Highest wage.....	7 90	7 02
Do...do.....	6 81	6 05
Lowest...do.....	5 45	4 84
Ireland—		
Highest wage.....	8 98	7 99
High...do.....	8 44	7 50
Lowest...do.....	5 72	5 08
Scotland—		
Highest wage.....	7 62	6 78
Lowest...do.....	6 81	6 05
Germany—		
Highest wage.....	6 75	6 00
Medium...do.....	4 97	4 42
Lowest...do.....	3 94	3 50
Prussia—		
Highest wage.....	7 29	6 48
Medium...do.....	5 07	4 50
Lowest...do.....	3 94	3 50
France—		
Highest wage.....	6 01	5 34
Medium...do.....	5 27	4 68
Lowest...do.....	2 70	2 40
Marseilles.....	10 80	9 60
Do...do.....	8 10	7 20
Italy—		
Highest wage.....	5 40	4 80
Medium...do.....	3 85	3 42
Lowest...do.....	2 70	2 40



## RATES OF WAGES—Continued.

OCCUPATIONS AND COUNTRIES.		AV'GE WEEKLY WAGES.	
		Standard U. S. paper dollar, of 1872.....	Standard gold.
Switzerland—			
Highest wage .....		\$8 10	\$7 20
Lowest...do.....		6 75	6 00
Wages in Austria.....		8 10	7 20
Do.....Denmark.....		5 74	5 10
Do.....Russia.....		10 80	9 60
Do.....Tunis.....		4 05	3 60
Massachusetts, (not admitting of comparison,)—			
Horse-shoers, first grade.....		19 00	16 89
Do.....second..do.....		17 00	15 11
Fitters, first grade.....		30 00	26 66
Do.....second..do.....		22 00	19 55
Helpers.....		11 00	9 77
Machine blacksmiths, first grade.....		30 00	26 66
Do.....do.....second..do.....		24 00	21 33
Do.....do.....third..do.....		22 50	19 98
Do.....do.....fourth..do.....		21 00	18 66
Breweries.			
Wash-house.....Massachusetts.....		12 50	11 11
Do.....England.....		4 62	4 11
Do.....boys.....do.....		1 63	1 45
Wash-floor.....Massachusetts.....		13 00	11 55
Do.....England.....		4 76	4 23
Do.....Germany.....		4 86	4 32
Teamsters.....Massachusetts.....		13 50	12 00
Dray and van men.....England.....		6 26	5 56
Coopers.....Massachusetts.....		18 00	16 00
Do.....England.....		8 98	7 98
Engine drivers.....Massachusetts.....		15 50	13 78
Do.....England.....		7 35	6 53
Watchman.....Massachusetts.....		13 67	12 15
Do.....England.....		7 89	7 01
Carpenters.....Massachusetts.....		18 00	16 09
Do.....England.....		7 08	6 29
Painters.....Massachusetts.....		18 00	16 00
Do.....England.....		7 08	6 29
(Not admitting of comparison,)			
Kettle-room.....Massachusetts.....		12 00	10 67
Malt-house.....do.....		12 00	10 67
Foreman.....do.....		25 00	22 22
Stores, men.....England.....		5 10	4 53
Do.....boys.....do.....		1 22	1 08
Stagemen.....do.....		5 72	5 08
Hoproom, men.....do.....		5 16	4 59
Stablemen.....do.....		5 45	4 84
Coppersmiths.....do.....		11 43	10 16
Millwrights.....do.....		11 43	10 16
Blacksmiths.....do.....		10 89	9 68
Harnessmakers.....do.....		8 17	7 26
Wheelwrights.....do.....		8 71	7 74
Laborers, general.....do.....		5 45	4 84

## COMPARATIVE RATES OF WAGES.

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## RATES OF WAGES—Continued.

			AV'GE WEEKLY WAGES.	
OCCUPATIONS AND COUNTRIES.			Standard U.S. paper dollar of 1872.....	Standard gold,
<i>Bookbinders.</i>				
Finishers	1st grade	Massachusetts	\$26 00	\$23 11
Do	2d do	do	22 00	19 55
Do	3d do	do	20 00	17 77
Do	4th do	do	19 00	16 88
Do	1st do	England	10 89	9 68
Do	2d do	do	9 80	8 71
Forwarders, 1st class	1st grade	Massachusetts	24 00	21 33
Do	2d do	do	20 00	17 77
Do	3d do	do	18 00	16 00
Do	1st class	England	9 80	8 71
Do	2d do	1st grade Massachusetts	18 00	16 00
Do	2d do	do	16 00	14 22
Do	3d do	do	15 00	13 33
Do	2d class	England	9 80	7 74
Stampers 1st class	1st grade	Massachusetts	22 00	19 55
Do	2d do	do	20 00	17 77
Do	1st class	England	8 71	7 74
Do	2d do	Massachusetts	16 00	14 22
Do	2d do	England	8 17	7 26
Folders females	1st grade	Massachusetts	9 00	8 00
Do do	2d do	do	7 00	6 22
Do do	3d do	do	6 00	5 33
Do do	4th do	do	5 00	4 44
Do do	1st do	England	3 81	3 39
Do do	2d do	do	3 24	2 88
Do do	3d do	do	2 72	2 42
Do do	piece-work	Massachusetts	10 80	9 60
Do do	do	do	7 20	6 36
Do do	do	England	5 45	4 84
Do do	do	do	3 26	2 90
Sewers do	1st grade	Massachusetts	9 00	8 00
Do do	2d do	do	7 00	6 22
Do do	3d do	do	6 00	5 33
Do do	4th do	do	5 00	4 44
Do do	1st do	England	3 81	3 39
Do do	2d do	do	3 24	2 88
Do do	3d do	do	2 72	2 42
Do do	piece-work	Massachusetts	10 80	9 60
Do do	do	do	7 20	6 36
Do do	do	England	4 35	3 87
Do do	do	do	2 72	2 42
Collators do	1st grade	Massachusetts	9 00	8 00
Do do	2d do	do	6 00	5 33
Do do	3d do	do	5 00	4 44
Do do	piece-work	do	10 80	9 60
Do do	do	do	7 20	6 36
Do do	do	England	3 81	3 39
Do do	do	do	2 99	2 66
Not admitting of comparison.				
Binders	1st grade	England	9 26	8 23
Do	2d do	do	8 72	7 75
Do	3d do	do	7 35	6 53
Do	1st do	Germany	5 67	5 04
Do	2d do	do	5 06	4 50
Do	3d do	do	3 85	3 42
Do	4th do	do	3 24	2 88

## COMPARATIVE RATES OF WAGES

## RATES OF WAGES—CONTINUED.

OCCUPATIONS AND COUNTRIES.			AV'GE WEEKLY WAGES.	
			Standard U. S. paper dollar of 1872.....	Standard gold,
<i>Bakeries.</i>				
Crackerbaking, men.....	1st grade.....	Massachusetts	\$15 00	\$13 33
Do.....do.....	2d do.....do.....	do.....do.....	14 00	12 44
Do.....do.....	3d do.....do.....	do.....do.....	13 00	11 55
Do.....do.....	1st do.....do.....	England.....	8 72	7 75
Do.....do.....	2d do.....do.....	do.....do.....	7 63	6 78
Do.....do.....	3d do.....do.....	do.....do.....	6 54	5 81
Do.....do.....	1st do.....do.....	Scotland.....	8 17	7 26
Do.....do.....	2d do.....do.....	do.....do.....	7 27	6 54
Do.....do.....	3d do.....do.....	do.....do.....	1 90	1 69
Do.....do.....	1st do.....do.....	Germany.....	6 75	6 00
Do.....do.....	2d do.....do.....	do.....do.....	4 73	4 20
Do.....do.....	3d do.....do.....	do.....do.....	4 05	3 60
Do.....do.....	4th do.....do.....	do.....do.....	3 24	2 88
Do.....do.....	with board 1st do.....do.....	do.....do.....	2 76	2 45
Do.....do.....do.....	2d do.....do.....	do.....do.....	2 34	2 08
Do.....do.....do.....	3d do.....do.....	do.....do.....	1 13	1 00
Do.....boys.....	1st do.....do.....	Massachusetts.....	7 50	6 66
Do.....do.....	2d do.....do.....	do.....do.....	6 00	5 33
Do.....girls.....	do.....do.....	do.....do.....	6 00	5 33
Do.....boys.....	1st do.....do.....	Scotland.....	1 63	1 45
Do.....do.....	2d do.....do.....	do.....do.....	81	72
Girls.....	packing.....	Scotland.....	2 44	2 17
Do.....do.....	do.....do.....	do.....do.....	81	72
Breadbaking, men.....	1st grade.....	Massachusetts.....	15 00	13 33
Do.....do.....	2d do.....do.....	do.....do.....	14 50	12 88
Do.....do.....	1st do.....do.....	Scotland.....	8 71	7 74
Do.....do.....	2d do.....do.....	do.....do.....	3 26	2 90
Men, (see crackerbaking).....	do.....do.....	England.....		
Do.....do.....	do.....do.....	Germany.....		
Not admitting of comparison.				
Boys, breadbaking.....	do.....do.....	Massachusetts.....	10 00	8 89
Girls.....do.....	do.....do.....	do.....do.....	7 10	6 31
<i>Boots and Shoes.</i>				
Cutters, upper.....	do.....do.....	Massachusetts.....	18 00	16 00
Do.....with dies.....	do.....do.....	do.....do.....	14 00	12 44
Do.....sole leather.....	do.....do.....	do.....do.....	18 00	16 00
Do.....do.....	1st grade.....	England.....	7 08	6 29
Do.....do.....	2d do.....do.....	do.....do.....	6 54	5 81
Do.....do.....	3d do.....do.....	do.....do.....	4 91	4 36
Fitters.....	stock.....	Massachusetts.....	16 00	14 22
Fitters, females.....	1st grade.....	England.....	7 08	6 29
Do.....do.....	2d do.....do.....	do.....do.....	4 91	4 36
Do.....do.....	3d do.....do.....	do.....do.....	3 26	2 90
Bottomers.....	do.....do.....	Massachusetts.....	18 00	16 00
Finishers.....	do.....do.....	do.....do.....	18 00	16 00
Do.....do.....	1st grade.....	England.....	10 89	9 68
Do.....do.....	2d do.....do.....	do.....do.....	5 72	5 08
Do.....do.....	3d do.....do.....	Scotland.....	7 08	6 29
Machine hands, females.....	do.....do.....	Massachusetts.....	10 00	8 89
Do.....do.....	do.....do.....	Scotland.....	2 72	2 42
Do.....do.....	1st grade.....	England.....	3 81	3 39
Do.....do.....	2d do.....do.....	do.....do.....	3 24	2 88
Do.....do.....	3d do.....do.....	do.....do.....	2 18	1 94
Lastmakers.....	1st grade.....	Massachusetts.....	20 00	17 78
Do.....do.....	2d do.....do.....	do.....do.....	18 00	16 00



## COMPARATIVE RATES OF WAGES.

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## RATES OF WAGES—CONTINUED.

OCCUPATIONS AND COUNTRIES.			AVERAGE WEEKLY WAGES.	
			Standard U. S. paper dollar in 1872.....	Standard gold,
<i>Boots and Shoes—Continued.</i>				
Last makers.....	1st grade.....	England.....	\$8 17	\$7 26
Do.....	2d do.....	do.....	5 45	4 84
Shoemakers.....	1st do.....	Massachusetts.....	18 00	16 00
Do.....	2d do.....	do.....	15 00	13 33
Do.....	Repairing.....	do.....	15 00	13 33
Do.....	do.....	do.....	12 00	10 67
Do.....	do.....	do.....	11 00	9 78
Do.....	do.....	do.....	9 00	8 00
Do.....	do.....	England.....	9 53	8 47
Do.....	do.....	do.....	8 57	7 62
Do.....	do.....	do.....	6 94	6 17
Do.....	do.....	do.....	6 27	5 57
Do.....	do.....	do.....	4 91	4 36
Do.....	do.....	Germany.....	6 75	6 00
Do.....	do.....	do.....	6 08	5 40
Do.....	do.....	do.....	4 79	4 26
Do.....	do.....	do.....	3 60	3 20
Do.....	do.....	do.....	2 43	2 16
Do.....	do.....	Prussia.....	4 28	3 80
Do.....	do.....	do.....	3 38	3 00
Do.....	do.....	France.....	8 10	7 20
Do.....	do.....	do.....	6 75	6 00
Do.....	do.....	do.....	4 92	4 38
Do.....	do.....	do.....	4 05	3 60
Do.....	do.....	Italy.....	3 33	3 00
Do.....	do.....	do.....	3 18	2 83
Do.....	do.....	do.....	2 63	2 34
Do.....	do.....	do.....	1 92	1 71
Do.....	do.....	Sicily.....	6 41	5 70
Do.....	do.....	Denmark.....	10 13	9 00
Do.....	do.....	do.....	6 75	6 00
Do.....	do.....	Austria.....	6 75	6 00
Do.....	do.....	Switzerland.....	5 06	4 50
Do.....	do.....	Russia.....	10 80	9 60
Do.....	do.....	Tunis, Africa.....	2 50	2 22
Not admitting of comparison.				
Lasters.....		Massachusetts.....	16 00	14 22
M'Kay machine men.....		do.....	25 00	22 22
Beating-out machines.....		do.....	19 00	16 89
Trimmers.....		do.....	20 00	17 78
Setting edges.....		do.....	20 00	17 78
Heelers.....		do.....	20 00	17 78
Lastmaker.....	3d grade.....	do.....	16 00	14 22
Riveters.....	1st do.....	England.....	9 53	8 47
Do.....	2d do.....	do.....	8 17	7 26
Do.....	3d do.....	do.....	5 45	4 84
Do.....	4th do.....	do.....	3 36	2 90
Overlookers.....	1st do.....	do.....	10 89	9 68
Do.....	2d do.....	do.....	8 17	7 26
Riveters.....		Scotland.....	6 81	6 05
Shoemakers, (with board,).....	1st grade.....	Germany.....	2 43	2 16
Do.....	do.....	do.....	1 62	1 44
Do.....	do.....	do.....	1 22	1 08
Do.....	do.....	do.....	92	82

## COMPARATIVE RATES OF WAGES.

## RATES OF WAGES—Continued.

			AVERAGE WEEKLY WAGES.	
OCCUPATIONS AND COUNTRIES.			Standard U. S. paper dollar of 1872	Standard gold
<i>Brickmaking.</i>				
Moulders...	(with board added,) 1st grade	Massachusetts...	\$20 77	\$18 46
Do	do 2d do	do	9 23	8 24
Do	do 3d do	do	8 30	7 38
Do	no board	England	5 94	5 28
Sorters	1st grade	Massachusetts...	9 00	8 00
Do	2d do	do	8 30	7 38
Do	no board	England	6 75	6 00
Loaders	1st grade	Massachusetts...	9 00	8 00
Do	2d do	do	8 30	7 38
Do	no board	England	6 75	6 00
Barrowmen	1st grade	Massachusetts...	12 00	10 67
Do	2d do	do	9 00	8 00
Do	3d do	do	8 76	7 79
Do	1st do	England	5 67	5 04
Do	2d do	do	4 86	4 32
Carpenters	1st do	Massachusetts...	18 00	16 00
Do	2d do	do	13 85	12 31
Do	no board	England	6 48	5 76
Engineers	1st do	Massachusetts...	22 50	20 00
Do	2d do	do	19 23	17 09
Do	3d do	do	12 00	10 67
Do	no board	England	9 72	8 64
Not admitting of comparison.				
Overseers		Massachusetts	15 00	13 33
Blacksmiths		do	14 50	12 89
Laborers	1st grade	do	13 50	12 00
Do	2d do	do	8 65	7 69
Do	3d do	do	8 07	7 17
Do	4th do	do	7 61	6 76
Burners	1st grade	do	34 61	30 76
Do	2d do	do	30 00	26 67
Do	3d do	do	16 15	14 36
Do	4th do	do	15 00	13 33
Pressers		do	11 30	10 04
Face-brick men		do	11 30	10 04
Teamsters	1st grade	do	10 36	9 21
Do	2d do	do	7 16	6 36
Hostlers	1st grade	do	10 36	9 21
Do	2d do	do	7 16	6 36
Cooks		do	8 07	7 17
Boys	1st grade	do	7 61	6 76
Do	2d do	do	5 77	5 13
<i>Box Making.</i>				
Fancy and paper boxes.				
Men	1st grade	Massachusetts	18 00	16 00
Do	2d do	do	15 00	13 33
Do	3d do	do	12 00	10 67
Do	1st do	England	10 89	9 68
Do	2d do	do	4 91	4 36
Do	3d do	do	3 26	2 90
Do		Germany	4 86	4 32
Boys		Massachusetts	5 37	4 77
Do		England	2 18	1 94
Women and girls	1st grade	Massachusetts	7 50	6 67
Do	2d do	do	6 00	5 33

## COMPARATIVE RATES OF WAGES.

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## RATES OF WAGES—CONTINUED.

OCCUPATIONS AND COUNTRIES.			AVERAGE WEEKLY WAGES.	
			Standard U. S. paper dollar of 1872.....	Standard gold,
<i>Boxmaking—Continued.</i>				
Women and girls.....	3d grade.....	Massachusetts...	\$5 00	\$4 44
Do.....		Germany.....	3 24	2 88
<i>Brushmaking.</i>				
Pan hands....females.....	1st grade.....	Massachusetts...	8 00	7 11
Do.....	2d do.....	do.....	7 00	6 22
Do.....	3d do.....	do.....	6 00	5 33
Do.....		England.....	8 17	7 26
Borers.....	1st do.....	Massachusetts...	19 00	16 89
Do.....	2d do.....	do.....	18 00	16 00
Do.....	3d do.....	do.....	15 00	13 33
Do.....	4th do.....	do.....	14 00	12 44
Do.....		England.....	8 16	7 26
Combers.....	1st do.....	Massachusetts...	18 00	16 00
Do.....	2d do.....	do.....	16 00	14 22
Do.....	3d do.....	do.....	15 00	13 33
Do.....	1st do.....	England.....	9 53	8 47
Do.....	2d do.....	do.....	6 81	6 05
Paint brush makers.....		Massachusetts...	20 00	17 78
Do.....do.....	1st do.....	England.....	12 25	10 89
Do.....do.....	2d do.....	do.....	10 89	9 68
Finishers.....	1st do.....	Massachusetts...	20 00	17 78
Do.....	2d do.....	do.....	18 00	16 00
Do.....		England.....	7 63	6 78
Boys.....		Massachusetts...	5 00	4 44
Do.....		England.....	1 22	1 08
Not admitting of comparison.				
Drawers....females.....	1st grade.....	Massachusetts...	7 00	6 22
Do.....do.....	2d do.....	do.....	6 00	5 33
Do.....do.....	3d do.....	do.....	5 00	4 44
Do.....do.....	4th do.....	do.....	4 00	356
Nailers.....	1st do.....	do.....	18 00	16 00
Do.....	2d do.....	do.....	17 00	15 11
Painters.....		do.....	20 00	17 78
Girls.....	1st do.....	England.....	1 90	1 69
Do.....	2d do.....	do.....	1 09	97
Apprentices.....		do.....	2 45	2 18
Women.....	1st do.....	do.....	4 91	4 36
Do.....	2d do.....	do.....	2 45	2 18
<i>Bleaching, dyeing and printing.</i>				
Bleaching, singeing, &c.—				
Overseer.....		Massachusetts...	18 00	16 00
Do.....	1st grade.....	England.....	9 53	8 47
Do.....	2d do.....	do.....	8 17	7 26
Laborers.....		Massachusetts...	9 00	8 00
Do.....	1st grade.....	England.....	5 72	5 08
Do.....	2d do.....	do.....	4 35	3 87
Boys and girls, (13 to 18,).....		Massachusetts...	3 72	3 31
Do.....do.....	1st grade.....	England.....	2 17	1 93
Do.....do.....	2d do.....	do.....	1 50	1 33
Color mixing—				
Overseer.....		Massachusetts...	21 00	18 67
Do.....	1st grade.....	England.....	16 34	14 52
Do.....	2d do.....	do.....	12 25	10 89
Do.....	3d do.....	do.....	10 89	9 68



## COMPARATIVE RATES OF WAGES.

## RATES OF WAGES—CONTINUED.

OCCUPATIONS AND COUNTRIES.			AV'GE WEEKLY WAGES.	
			Standard U. S. paper dollar of 1872.....	Standard gold,
<i>Bleaching, dyeing and printing.—Continued.</i>				
Men.....	Massachusetts...		\$9 00	\$8 00
Do.....	England.....		4 89	4 35
Boys, (13 to 18,).....	Massachusetts...		3 72	3 31
Do.....	1st grade.....	England.....	3 80	3 38
Do.....	2d ..do.....	do.....	2 72	2 42
<i>Machine printing—</i>				
Overseer.....	Massachusetts...		36 00	32 00
Do.....	England.....		14 97	13 31
Printers.....	Massachusetts...		24 00	21 33
Do.....	1st grade.....	England.....	13 61	12 10
Do.....	2d ..do.....	do.....	12 79	11 37
Do.....	3d ..do.....	do.....	8 16	7 26
Back-tenters.....	Massachusetts...		7 98	7 09
Do.....	England.....		4 35	3 87
Boys, (13 to 18,).....	Massachusetts...		3 72	3 31
Do.....	1st grade.....	England.....	2 17	1 93
Do.....	2d ..do.....	do.....	1 36	1 21
<i>Dyeing and steaming—</i>				
Overseer.....	Massachusetts...		21 00	18 67
Do.....	1st grade.....	England.....	8 16	7 26
Do.....	2d ..do.....	do.....	5 45	4 84
Men.....	Massachusetts...		9 00	8 00
Do.....	England.....		4 35	3 87
Boys and girls, (13 to 18,).....	Massachusetts...		3 72	3 31
Do.....	1st grade.....	England.....	4 89	4 35
Do.....	2d ..do.....	do.....	2 17	1 93
<i>Dyeing, soaping, cleaning—</i>				
Overseer.....	Massachusetts...		21 00	18 67
Do.....	1st grade.....	England.....	16 25	14 52
Do.....	2d ..do.....	do.....	9 53	8 47
Dyers.....	Massachusetts...		9 00	8 00
Do.....	1st grade.....	England.....	5 72	5 08
Do.....	2d ..do.....	do.....	5 45	4 84
Do.....	3d ..do.....	do.....	4 62	4 11
Do.....	4th ..do.....	do.....	4 35	3 87
Do.....	1st ..do.....	Germany.....	4 73	4 20
Do.....	2d ..do.....	do.....	4 05	3 60
Do.....	3d ..do.....	do.....	3 44	3 06
Do.....	4th ..do.....	do.....	3 24	2 88
<i>Finishing, Making up and Packing.</i>				
Overseers.....	Massachusetts...		18 00	16 00
Men.....	do.....		15 00	13 33
Do.....	1st grade.....	England.....	5 72	5 08
Do.....	2d ..do.....	do.....	4 89	4 35
Women.....	Massachusetts...		4 50	4 00
Do.....	1st grade.....	England.....	3 53	3 14
Do.....	2d ..do.....	do.....	2 31	2 05
Boys and girls.....	Massachusetts...		3 72	3 31
Do.....	1st grade.....	England.....	2 44	2 17
Do.....	2d ..do.....	do.....	1 36	1 21
<i>Repairs.</i>				
Overseer.....	Massachusetts...		28 50	25 33

## COMPARATIVE RATE OF WAGES.

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## RATE OF WAGES—CONTINUED.

OCCUPATIONS AND COUNTRIES.			AV'GE WEEKLY WAGES.	
			Standard U.S. paper dollar of 1872.....	Standard gold,
<i>Repairs—Continued.</i>				
Overseers.....		England.....	\$13 61	\$12 10
Machinists.....		Massachusetts ..	16 50	14 67
Do.....	1st grade.....	England.....	8 70	7 74
Do.....	2d do.....	do.....	8 17	7 26
Carpenters.....		Massachusetts ..	15 00	13 33
Do.....	1st grade.....	England.....	8 70	7 74
Do.....	2d do.....	do.....	5 16	4 59
Engine tenders.....		Massachusetts ..	13 50	12 00
Do.....do.....		England.....	5 45	4 84
Watchmen.....		Massachusetts ..	13 50	12 00
Do.....		England.....	5 72	5 08
Carters.....		Massachusetts ..	12 00	10 67
Do.....	1st grade.....	England.....	5 45	4 84
Do.....	2d do.....	do.....	4 89	4 35
Clerks (in office).....		Massachusetts ..	12 00	10 67
Do.....do.....		England.....	10 07	8 95
Do.....do.....		do.....	8 17	7 26
Designers.....		Massachusetts ..	30 00	26 67
Do.....	1st grade.....	England.....	16 34	14 52
Do.....	2d do.....	do.....	10 89	9 68
Engravers.....		Massachusetts ..	24 00	21 33
Do.....	1st grade.....	England.....	13 61	12 10
Do.....	2d do.....	do.....	8 17	7 26
Not admitting of comparison.				
Woman (above 18).....		do.....	2 58	2 29
Do.....do.....		do.....	2 44	2 17
<i>BUILDING TRADES—Masons.</i>				
Masons.....		Massachusetts ..	24 00	21 33
Do.....	1st grade.....	England.....	10 17	9 04
Do.....	2d do.....	do.....	9 53	8 47
Do.....	3d do.....	do.....	8 85	7 87
Do.....	4th do.....	do.....	8 17	7 26
Do.....	1st do.....	Scotland.....	9 53	8 47
Do.....	2d do.....	do.....	8 58	7 63
Do.....	3d do.....	do.....	7 90	7 02
Do.....		Ireland.....	7 63	6 78
Do.....stone.....		Germany.....	13 84	12 30
Do.....	1st grade.....	do.....	9 42	8 37
Do.....	2d do.....	do.....	8 10	7 20
Do.....	3d do.....	do.....	7 02	6 24
Do.....	4th do.....	do.....	5 64	5 01
Do.....	5th do.....	do.....	4 86	4 32
Do.....	1st do.....	Prussia.....	4 50	4 00
Do.....	2d do.....	do.....	4 10	3 64
Do.....	3d do.....	do.....	3 69	3 28
Do.....	1st do.....	France.....	7 43	6 60
Do.....	2d do.....	do.....	5 91	5 25
Do.....	3d do.....	do.....	5 13	4 56
Do.....	1st do.....	Italy.....	3 21	2 85
Do.....	2d do.....	do.....	2 63	2 34
Do.....	1st do.....	Switzerland ..	6 75	6 00
Do.....	2d do.....	do.....	5 40	4 80
Do.....		Russia.....	10 80	9 60
Do.....		Austria.....	6 75	6 00
Do.....		Denmark.....	5 40	4 80
Do.....		Tunis, Africa...	4 05	3 60

## COMPARATIVE RATE OF WAGES.

## RATE OF WAGES—CONTINUED.

OCCUPATIONS AND COUNTRIES.			AV'GE WEEKLY WAGES.	
			Standard U. S. paper dollar of 1873.....	Standard gold,
<i>Bricklayers.</i>				
Bricklayers.....		Massachusetts...	\$24 00	\$21 33
Do.....	1st grade.....	England.....	10 17	9 04
Do.....	2d do.....	do.....	9 80	8 71
Do.....	3d do.....	do.....	9 26	8 23
Do.....	4th do.....	do.....	8 17	7 26
Do.....	1st do.....	Ireland.....	8 99	7 99
Do.....	2d do.....	do.....	5 72	5 08
Do.....	1st do.....	Germany.....	5 94	5 28
Do.....	2d do.....	do.....	4 11	3 65
Do.....	3d do.....	do.....	3 71	3 30
Do..... (contract).....		Prussia.....	11 25	10 00
Do..... do.....		do.....	9 00	8 00
Do.....	1st do.....	do.....	8 91	7 92
Do.....	2d do.....	do.....	7 29	6 48
Do.....	3d do.....	do.....	6 19	5 50
Do.....	1st do.....	Switzerland.....	8 10	7 20
Do.....	2d do.....	do.....	6 75	6 00
Do.....	3d do.....	do.....	6 08	5 40
Do.....	1st do.....	France.....	6 75	6 00
Do.....	2d do.....	do.....	5 40	4 80
Do.....	3d do.....	do.....	3 38	3 00
Do.....		Russia.....	10 80	9 60
Do.....	1st grade.....	Italy.....	6 08	5 40
Do.....	2d do.....	do.....	2 70	2 40
Do.....		Tunis.....	4 05	3 60
<i>Plasterers.</i>				
Plasters.....		Massachusetts...	24 00	21 33
Do.....	1st grade.....	England.....	10 17	9 04
Do.....	2d do.....	do.....	8 62	7 66
Do.....	3d do.....	do.....	7 08	6 29
Do.....	4th do.....	do.....	6 27	5 57
Do.....	1st do.....	Scotland.....	8 10	7 20
Do.....	2d do.....	do.....	7 21	6 41
Do.....	3d do.....	do.....	6 81	6 05
Do.....	4th do.....	do.....	6 54	5 81
Do.....	1st do.....	Ireland.....	9 80	8 71
Do.....	2d do.....	do.....	7 63	6 78
Do.....	3d do.....	do.....	6 54	5 81
Do.....	1st do.....	Germany.....	9 72	8 64
Do.....	2d do.....	do.....	8 91	7 92
Do.....	3d do.....	do.....	7 29	6 48
Do.....	4th do.....	do.....	6 48	5 76
Do.....	5th do.....	do.....	5 04	4 48
Do.....	6th do.....	do.....	3 71	3 30
Do.....	1st do.....	Prussia.....	17 01	15 12
Do.....	2d do.....	do.....	12 15	10 80
Do.....	3d do.....	do.....	11 25	10 00
Do.....	4th do.....	do.....	9 00	8 00
Do.....	5th do.....	do.....	6 19	5 50
Do.....	1st do.....	France.....	9 45	8 40
Do.....	2d do.....	do.....	6 75	6 00
Do.....	3d do.....	do.....	6 21	5 52
Do.....	4th do.....	do.....	4 05	3 60
Do.....	1st do.....	Switzerland.....	8 10	7 20
Do.....	2d do.....	do.....	6 75	6 00
Do.....	1st do.....	Italy.....	6 08	5 40



## RATES OF WAGES—CONTINUED.

OCCUPATIONS AND COUNTRIES.			AV'GE WEEKLY WAGES.	
			Standard U. S. paper dollar of 1872.....	Standard gold,
<i>Plasterers—Continued.</i>				
Plasterers.....	2d grade.....	Italy.....	\$3 85	\$3 42
Do.....	.....	Austria.....	6 75	6 00
Do.....	.....	Denmark.....	5 40	4 80
Do.....	.....	Russia.....	10 80	9 60
Do.....	.....	Tunis, Africa.....	3 38	3 00
<i>Laborers.</i>				
Laborers.....	1st grade.....	Massachusetts....	14 00	12 44
Do.....	2d do.....	do.....	13 50	12 00
Do.....	1st do.....	England.....	6 67	5 93
Do.....	2d do.....	do.....	6 02	5 35
Do.....	3d do.....	do.....	5 42	4 82
Do.....	4th do.....	do.....	4 77	4 24
Do.....	5th do.....	do.....	4 08	3 63
Do.....	1st do.....	Scotland.....	5 49	4 88
Do.....	2d do.....	do.....	4 62	4 11
Do.....	1st do.....	Germany.....	3 42	3 04
Do.....	2d do.....	do.....	3 24	2 88
Hodmen.....	1st do.....	do.....	8 10	7 20
Do.....	2d do.....	do.....	6 75	6 00
Do.....	3d do.....	do.....	4 39	3 90
Do.....	.....	Prussia.....	6 48	5 76
Laborers.....	1st do.....	Ireland.....	4 91	4 36
Do.....	2d do.....	do.....	3 24	2 88
Do.....	3d do.....	do.....	2 45	2 18
Do.....	1st do.....	France.....	2 84	2 52
Do.....	2d do.....	do.....	1 35	1 20
Do.....	.....	Prussia.....	4 05	3 60
Do.....	.....	Denmark.....	4 05	3 60
Do.....	.....	Italy.....	2 03	1 80
Do.....	.....	Tunis, Africa.....	2 70	2 40
<i>Carpenters.</i>				
Carpenters.....	1st grade.....	Massachusetts....	18 00	16 00
Do.....	2d do.....	do.....	15 00	13 33
Do.....	1st do.....	England.....	10 17	9 04
Do.....	2d do.....	do.....	9 45	8 40
Do.....	3d do.....	do.....	8 53	7 58
Do.....	4th do.....	do.....	7 39	6 57
Do.....	5th do.....	do.....	7 08	6 29
Do.....	1st do.....	Scotland.....	7 63	6 78
Do.....	2d do.....	do.....	6 94	6 17
Do.....	3d do.....	do.....	6 54	5 81
Do.....	1st do.....	Ireland.....	8 99	7 99
Do.....	2d do.....	do.....	7 08	6 29
Do.....	3d do.....	do.....	4 91	4 36
Do.....	1st do.....	Germany.....	9 25	8 22
Do.....	2d do.....	do.....	8 51	7 56
Do.....	3d do.....	do.....	7 13	6 34
Do.....	4th do.....	do.....	6 08	5 40
Do.....	5th do.....	do.....	5 10	4 53
Do.....	6th do.....	do.....	4 15	3 69
Do.....	(contract).....	Prussia.....	11 25	10 00
Do.....	do.....	do.....	9 00	8 00
Do.....	1st grade.....	do.....	7 29	6 48
Do.....	2d do.....	do.....	6 19	5 50
Do.....	3d do.....	do.....	4 50	4 00

## COMPARATIVE RATES OF WAGES.

## RATES OF WAGES—CONTINUED.

OCCUPATIONS AND COUNTRIES.			AV'GE WEEKLY WAGES.	
			Standard U. S. paper dollar of 1872.	Standard gold,
<i>Carpenters—Continued.</i>				
Carpenters.....	4th grade.....	Prussia.....	\$4 10	\$3 64
Do.....	5th. do.....	do.....	3 69	3 28
Do.....	1st. do.....	France.....	13 50	12 00
Do.....	2d. do.....	do.....	9 45	8 40
Do.....	3d. do.....	do.....	8 10	7 20
Do.....	4th. do.....	do.....	6 75	6 00
Do.....	5th. do.....	do.....	5 13	4 56
Do.....	6th. do.....	do.....	4 05	3 60
Do.....	1st. do.....	Switzerland.....	8 10	7 20
Do.....	2d. do.....	do.....	6 75	6 00
Do.....	3d. do.....	do.....	5 74	5 10
Do.....	4th. do.....	do.....	5 40	4 80
Do.....	1st. do.....	Italy.....	6 75	6 00
Do.....	2d. do.....	do.....	3 30	2 93
Do.....	3d. do.....	do.....	2 63	2 34
Do.....		Russia.....	10 80	9 60
Do.....		Austria.....	8 10	7 20
Do.....		Denmark.....	5 40	4 80
Do.....		Tunis, Africa.....	4 05	3 60
<i>Plumbers.</i>				
Plumbers.....		Massachusetts.....	16 00	14 22
Do.....	boys.....	do.....	7 00	6 22
Do.....	1st grade.....	England.....	9 79	8 71
Do.....	2d. do.....	do.....	8 99	7 99
Do.....	3d. do.....	do.....	8 17	7 26
Do.....	4th. do.....	do.....	7 44	6 61
Do.....	1st. do.....	Scotland.....	8 17	7 26
Do.....	2d. do.....	do.....	7 63	6 78
Do.....	boys.....	do.....	8 82	7 73
Do.....		Germany.....	4 86	4 32
<i>Slaters.</i>				
Slaters.....		Massachusetts.....	18 00	16 00
Do.....	1st grade.....	England.....	8 17	7 26
Do.....	2d. do.....	do.....	7 62	6 77
Do.....	1st. do.....	Germany.....	8 10	7 20
Do.....	2d. do.....	do.....	6 75	6 00
<i>Painters.</i>				
Painters.....	1st grade.....	Massachusetts.....	17 00	15 11
Do.....	2d. do.....	do.....	16 50	14 66
Do.....	3d. do.....	do.....	13 50	12 00
Do.....	1st. do.....	England.....	9 79	8 71
Do.....	2d. do.....	do.....	9 41	8 36
Do.....	3d. do.....	do.....	8 63	7 67
Do.....	4th. do.....	do.....	7 63	6 78
Do.....	5th. do.....	do.....	6 27	5 57
Do.....	1st. do.....	Scotland.....	7 50	6 67
Do.....	2d. do.....	do.....	6 94	6 17
Do.....	1st. do.....	Ireland.....	10 62	9 44
Do.....	2d. do.....	do.....	7 35	6 53
Do.....	3d. do.....	do.....	6 81	6 05
Do.....	1st. do.....	Germany.....	12 15	10 80
Do.....	2d. do.....	do.....	10 60	9 42
Do.....	3d. do.....	do.....	9 45	8 40
Do.....	4th. do.....	do.....	7 29	6 48

## COMPARATIVE RATES OF WAGES.

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## RATES OF WAGES—CONTINUED.

OCCUPATIONS AND COUNTRIES.			AVERAGE WEEKLY WAGES.	
			Standard U. S. paper dollar of 1872.....	Standard gold,
<i>Painters—Continued.</i>				
Painters.....	5th grade.....	Germany.....	\$6 08	\$5 40
Do.....	6th. do.....	do.....	4 73	4 20
Do.....	7th. do.....	do.....	3 71	3 30
Do.....	(contract).....	Prussia.....	11 25	10 00
Do.....	do.....	do.....	9 00	8 00
Do.....	1st. do.....	do.....	6 19	5 50
Do.....	2d. do.....	do.....	5 67	5 04
Do.....	1st. do.....	France.....	6 75	6 00
Do.....	2d. do.....	do.....	6 08	5 40
Do.....	3d. do.....	do.....	5 06	4 50
Do.....	4th. do.....	do.....	3 85	3 42
Do.....	1st. do.....	Italy.....	6 75	6 00
Do.....	2d. do.....	do.....	3 95	3 51
Do.....	3d. do.....	do.....	2 63	2 34
Do.....	1st. do.....	Switzerland.....	6 75	6 00
Do.....	2d. do.....	do.....	5 40	4 80
Do.....	do.....	Austria.....	10 13	9 00
Do.....	do.....	Russia.....	10 80	9 60
Do.....	do.....	Denmark.....	5 40	4 80
Do.....	do.....	Tunis, Africa.....	5 06	4 50
<i>Glaziers.</i>				
Glaziers.....	do.....	Massachusetts.....	16 50	14 66
Do.....	do.....	England.....	7 44	6 61
Do.....	1st grade.....	Germany.....	6 75	6 00
Do.....	2d. do.....	do.....	4 73	4 20
Do.....	3d. do.....	do.....	4 05	3 60
<i>Gas Fitters.</i>				
Gas fitters.....	1st grade.....	Massachusetts.....	27 00	24 00
Do.....	2d. do.....	do.....	21 00	18 66
Do.....	3d. do.....	do.....	18 00	16 00
Do.....	1st. do.....	Scotland.....	6 81	6 05
Do.....	2d. do.....	do.....	6 54	5 81
Do.....	1st. do.....	Germany.....	8 10	7 20
Do.....	2d. do.....	do.....	4 86	4 32
<i>Paper Hangers.</i>				
Paper hangers.....	1st grade.....	Massachusetts.....	23 08	20 52
Do.....	2d. do.....	do.....	15 38	13 67
Do.....	3d. do.....	do.....	11 54	10 26
Do.....	1st. do.....	Germany.....	8 10	7 20
Do.....	2d. do.....	do.....	5 54	4 92
Do.....	3d. do.....	do.....	4 05	3 50
Do.....	4th. do.....	do.....	3 24	2 88
<i>Roofers—(Not admitting of comparison.)</i>				
Tin and metallic.....	do.....	Massachusetts.....	19 50	17 33
Composition.....	do.....	do.....	15 00	13 33
<i>Boilers and Agricultural Machines.</i>				
Boilermen.....	do.....	Massachusetts.....	14 44	12 83
Do.....	1st grade.....	England.....	12 25	10 89
Do.....	2d. do.....	do.....	10 35	9 20
Do.....	3d. do.....	do.....	9 80	8 71
Do.....	4th. do.....	do.....	8 99	7 99
Do.....	5th. do.....	do.....	7 66	6 72



## COMPARATIVE RATE OF WAGES.

## RATES OF WAGES—Continued.

OCCUPATIONS AND COUNTRIES.			AVERAGE WEEKLY WAGES.	
			Standard U. S. paper dollar of 1872.....	Standard gold.
<i>Boilers and Agricultural Machines—Continued.</i>				
Boilermen.....	1st grade.....	Scotland.....	\$9 26	\$8 23
Do.....	2d do.....	do.....	8 44	7 50
Do.....	3d do.....	do.....	5 72	5 08
Do.....	1st do.....	Prussia.....	11 34	10 08
Do.....	2d do.....	do.....	8 10	7 20
Blacksmiths.....	1st grade.....	Massachusetts.....	18 00	16 00
Do.....	2d do.....	do.....	14 40	12 80
Do.....	1st do.....	England.....	11 43	10 16
Do.....	2d do.....	do.....	8 44	7 50
Do.....	3d do.....	do.....	7 18	6 38
Do.....	4th do.....	do.....	6 53	5 80
Do.....	1st do.....	Scotland.....	7 62	6 77
Do.....	2d do.....	do.....	5 99	5 32
Do.....		Prussia.....	12 15	10 80
Do.....		Austria.....	84	75
Strikers.....		Massachusetts.....	10 50	9 30
Do.....		England.....	5 45	4 84
Engineer and fireman.....		Massachusetts.....	9 00	7 98
Do.....do.....	1st grade.....	Germany.....	12 47	11 08
Do.....do.....	2d do.....	do.....	10 38	9 23
Do.....do.....	3d do.....	do.....	8 30	7 38
Do.....do.....	4th do.....	do.....	7 27	6 46
Do.....do.....	5th do.....	do.....	6 23	5 54
Do.....		Prussia.....	16 20	14 40
Lathe hands.....	1st grade.....	Massachusetts.....	16 50	14 64
Do.....	2d do.....	do.....	10 50	9 30
Do.....		England.....	8 71	7 74
Do.....	1st grade.....	Prussia.....	7 29	6 48
Do.....	2d do.....	do.....	6 48	5 76
Do.....	1st do.....	Germany.....	7 20	6 40
Do.....	2d do.....	do.....	3 60	3 20
Apprentices.....		Massachusetts.....	4 50	4 02
Do.....		Prussia.....	2 43	2 16
Machinists.....	1st grade.....	Massachusetts.....	21 00	18 66
Do.....	2d do.....	do.....	19 50	17 33
Do.....	3d do.....	do.....	18 00	16 00
Do.....	4th do.....	do.....	13 50	12 00
Do.....	1st do.....	England.....	10 80	9 60
Do.....	2d do.....	do.....	7 35	6 53
Do.....	1st do.....	Ireland.....	12 25	10 89
Do.....	2d do.....	do.....	8 17	7 26
Do.....	1st do.....	Germany.....	6 75	6 00
Do.....	2d do.....	do.....	4 95	4 40
Do.....	3d do.....	do.....	3 71	3 30
Do.....	1st do.....	Prussia.....	12 15	10 80
Do.....	2d do.....	do.....	8 90	7 92
Do.....	3d do.....	do.....	7 29	6 48
Do.....	4th do.....	do.....	6 48	5 76
Do.....	5th do.....	do.....	4 86	4 32
Do.....	1st do.....	France.....	6 75	6 00
Do.....	2d do.....	do.....	6 01	5 34
Do.....	3d do.....	do.....	3 74	3 32
Do.....	4th do.....	do.....	2 57	2 28
Do.....	1st do.....	Switzerland.....	10 13	9 00
Do.....	2d do.....	do.....	7 09	6 30
Do.....	3d do.....	do.....	5 40	4 80
Do.....	4th do.....	do.....	4 05	3 60

## RATES OF WAGES.—CONTINUED.

OCCUPATIONS AND COUNTRIES.			AV'GE WEEKLY WAGES.	
			Standard U.S. paper dollar of 1872.....	Standard gold,
Machinists.....	1st grade.....	Sicily, Italy.....	\$8 10	\$7 20
Do.....	2d do.....	do.....	4 05	3 60
Do.....		Austria.....	3 12	2 77
Do.....		Tunis, Africa.....	5 06	4 50
Do.....	1st grade.....	Russia.....	13 50	12 00
Do.....	2d do.....	do.....	11 81	10 50
Iron moulders.....		Massachusetts.....	14 40	12 80
Do.....	1st grade.....	England.....	9 79	8 70
Do.....	2d do.....	do.....	8 71	7 74
Do.....	3d do.....	do.....	7 62	6 77
Do.....	4th do.....	do.....	7 08	6 29
Do.....	(contract,).....	Germany.....	7 20	6 40
Do.....	1st grade.....	do.....	6 75	6 00
Do.....	2d do.....	do.....	4 73	4 20
Do.....	3d do.....	do.....	3 60	3 20
Do.....		Prussia.....	9 72	8 64
Do.....		Austria.....	1 07	— 95
Painters.....		Massachusetts.....	12 00	10 67
Do.....	1st grade.....	England.....	5 99	5 32
Do.....	2d do.....	do.....	4 89	4 35
Patternmakers.....	1st do.....	Massachusetts.....	15 00	13 33
Do.....	2d do.....	do.....	13 50	12 00
Do.....	1st do.....	England.....	10 07	8 95
Do.....	2d do.....	do.....	9 53	8 47
Do.....	3d do.....	do.....	7 62	6 77
Do.....	1st do.....	Scotland.....	8 17	7 26
Do.....	2d do.....	do.....	7 08	6 29
Do.....	1st do.....	Prussia.....	8 10	7 20
Do.....	2d do.....	do.....	4 86	4 32
Not admitting of comparison.				
Agricultural machinery, overseers.....		Massachusetts.....	18 00	16 00
Mining machinery.....		do.....	18 00	16 00
Chippers.....		do.....	9 00	7 98
Filers.....		do.....	9 00	7 98
Engine fitters.....	1st grade.....	England.....	10 89	9 68
Do.....	2d do.....	do.....	9 26	8 23
Do.....	3d do.....	do.....	8 71	7 74
Do.....	4th do.....	do.....	6 81	6 05
Do.....	5th do.....	do.....	6 53	5 80
Do.....	1st do.....	Scotland.....	7 35	6 53
Do.....	2d do.....	do.....	6 53	5 80
Do.....	1st do.....	Prussia.....	7 29	6 48
Do.....	2d do.....	do.....	6 48	5 76
Laborers.....	1st do.....	do.....	4 91	4 36
Do.....	2d do.....	do.....	3 95	3 51
Do.....	3d do.....	do.....	3 26	2 90
Do.....	1st do.....	Scotland.....	4 35	3 87
Do.....	2d do.....	do.....	4 08	3 63
Do.....		Prussia.....	4 86	4 32
Planners.....		England.....	8 17	7 26
Hammermen.....	1st grade.....	do.....	4 89	4 35
Do.....	2d do.....	do.....	3 81	3 39
Do.....		Scotland.....	4 62	4 11
Do.....		Austria.....	1 03	93
Riveters.....		England.....	9 26	8 23
Do.....		Prussia.....	10 53	9 36
Moulders.....		England.....	9 26	8 23

## COMPARATIVE RATES OF WAGES.

## RATES OF WAGES—CONTINUED.

OCCUPATIONS AND COUNTRIES.			AV'GE WEEKLY WAGES.	
			Standard U. S. paper dollar of 1872.....	Standard gold,
<i>Clockmaking.</i>				
Clockmakers.....	1st grade.....	Massachusetts...	\$20 00	\$18 67
Do.....	2d do.....	do.....	10 00	8 89
Do.....	1st do.....	England.....	10 89	9 68
Do.....	2d do.....	do.....	8 17	7 26
Do.....	3d do.....	do.....	7 62	6 77
Do.....	4th do.....	do.....	6 81	6 05
<i>Chemical works.</i>				
Sulphuric acid makers.....		Massachusetts...	12 00	10 67
Do.....do.....		England.....	7 35	6 53
Reverberatory furnace.....		Massachusetts...	12 00	10 67
Do.....do.....		England.....	7 08	6 29
Laborers.....		Massachusetts...	11 00	9 78
Do.....	1st grade.....	England.....	4 89	4 35
Do.....	2d do.....	do.....	4 08	3 63
Bricklayers.....		Massachusetts...	24 00	21 33
Do.....	1st do.....	England.....	7 08	6 29
Do.....	2d do.....	do.....	6 66	5 92
Joiners.....		Massachusetts...	15 00	13 33
Do.....	1st do.....	England.....	7 48	6 65
Do.....	2d do.....	do.....	6 81	6 05
Furnacemen.....		Massachusetts...	12 00	10 67
Do.....		England.....	6 81	6 05
Engineers.....	1st grade.....	Massachusetts...	12 50	11 11
Do.....	2d do.....	do.....	12 00	10 67
Do.....		England.....	7 08	6 29
Plumbers.....		Massachusetts...	15 00	13 33
Do.....		England.....	6 66	5 92
Masons.....		Massachusetts...	24 00	21 33
Do.....		England.....	8 17	7 26
<i>Not admitted of comparison.</i>				
Workmen.....	1st grade.....	England.....	8 71	7 74
Do.....	2d do.....	do.....	7 48	6 65
Do.....		Germany.....	3 11	2 76
Do.....		Austria.....	3 24	2 88
Chloride limemakers.....		England.....	7 08	6 29
Millwrights.....		do.....	7 08	6 29
Cartmen.....		do.....	5 23	4 65
Reelmen.....		do.....	6 81	6 05
Coopers.....		do.....	6 67	5 93
Sawyers.....		do.....	5 99	5 32
Brickmakers.....		do.....	5 45	4 84
Boilermakers.....		do.....	6 81	6 05
Blacksmiths.....		do.....	5 99	5 32
Founders, (moulders,).....		do.....	8 01	7 13
<i>Cabinetmaking and Upholstery.</i>				
Cabinetmakers.....	1st grade.....	Massachusetts...	19 50	17 33
Do.....	2d do.....	do.....	18 00	16 00
Do.....	3d do.....	do.....	16 00	14 22
Do.....	4th do.....	do.....	15 00	13 33
Do.....	5th do.....	do.....	14 00	12 44
Do.....	1st do.....	England.....	12 25	10 89
Do.....	2d do.....	do.....	9 25	8 22
Do.....	3d do.....	do.....	8 44	7 50
Do.....	4th do.....	do.....	5 45	4 84



## COMPARATIVE RATE OF WAGES.

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## RATES OF WAGES—CONTINUED.

OCCUPATIONS AND COUNTRIES.			AVERAGE WEEKLY WAGES.	
			Standard U. S. paper dollar of 1872 .....	Standard gold.
<i>Cabinetmaking and Upholstery—Continued.</i>				
Cabinetmaking .....	1st. do. ....	Ireland .....	\$8 17	\$7 26
Do .....	2d. do. ....	do .....	7 08	6 29
Do .....	3d. do. ....	do .....	6 54	5 81
Do .....	1st. do. ....	Germany .....	5 67	5 04
Do .....	2d. do. ....	do .....	4 86	4 32
Do .....	3d. do. ....	do .....	4 05	3 60
Do .....	4th. do. ....	do .....	3 24	2 88
Do .....	1st. do. ....	Prussia .....	12 15	10 80
Do .....	2d. do. ....	do .....	9 72	8 64
Do .....	3d. do. ....	do .....	5 67	5 04
Do .....	4th. do. ....	do .....	4 05	3 60
Do .....	1st. do. ....	Austria .....	13 50	12 00
Do .....	2d. do. ....	do .....	6 75	6 00
Do .....	1st. do. ....	France .....	6 75	6 00
Do .....	2d. do. ....	do .....	5 40	4 80
Do .....	3d. do. ....	do .....	2 70	2 40
Do .....	1st. do. ....	Switzerland .....	6 75	6 00
Do .....	2d. do. ....	do .....	5 74	5 10
Do .....	3d. do. ....	do .....	5 40	4 80
Do .....	1st. do. ....	Italy .....	6 08	5 40
Do .....	2d. do. ....	do .....	3 38	3 00
Do .....	1st. do. ....	Russia .....	8 78	7 80
Do .....	2d. do. ....	do .....	8 44	7 50
Do .....	do .....	Denmark .....	5 74	5 10
Upholsters .....	1st. do. ....	Massachusetts ..	18 00	16 00
Do .....	2d. do. ....	do .....	15 00	13 33
Do .....	1st. do. ....	England .....	13 61	12 10
Do .....	2d. do. ....	do .....	9 26	8 23
Do .....	3d. do. ....	do .....	8 17	7 26
Do .....	1st. do. ....	Germany .....	8 10	7 20
Do .....	2d. do. ....	do .....	5 40	4 80
French polishers or finishers .....	1st. do. ....	Massachusetts ..	14 00	12 44
Do .....	2d. do. ....	do .....	13 80	12 27
Do .....	3d. do. ....	do .....	13 00	11 56
Do .....	4th. do. ....	do .....	12 00	10 67
Do .....	5th. do. ....	do .....	11 00	9 78
Do .....	1st. do. ....	England .....	9 26	8 23
Do .....	2d. do. ....	do .....	8 17	7 26
Do .....	3d. do. ....	do .....	7 62	6 77
Painters .....	do .....	Massachusetts ..	14 50	12 89
Do .....	do .....	England .....	9 45	8 40
Gilders .....	do .....	Massachusetts ..	19 50	17 33
Do .....	1st grade .....	England .....	9 53	8 47
Do .....	2d. do. ....	do .....	8 71	7 74
Do .....	3d. do. ....	do .....	8 17	7 26
Upholstery sewers, female .....	1st. do. ....	Massachusetts ..	7 50	6 67
Do .....	2d. do. ....	do .....	7 00	6 22
Do .....	3d. do. ....	do .....	6 00	5 33
Do .....	1st. do. ....	England .....	3 80	3 38
Do .....	2d. do. ....	do .....	3 26	3 90
Carvers .....	1st. do. ....	Massachusetts ..	19 00	16 89
Do .....	2d. do. ....	do .....	18 00	16 00
Do .....	3d. do. ....	do .....	17 00	15 11
Do .....	1st. do. ....	England .....	13 61	12 10
Do .....	2d. do. ....	do .....	8 17	7 26
Decorators .....	do .....	Massachusetts ..	25 00	22 22
Do .....	do .....	England .....	10 34	9 19

## COMPARATIVE RATE OF WAGES.

## RATES OF WAGES—CONTINUED.

OCCUPATIONS AND COUNTRIES.			AV'GE WEEKLY WAGES.	
			Standard U. S. paper dollar of 1872.....	Standard gold,
<i>Cabinetmaking and Upholstery—Continued.</i>				
Turners.....		Massachusetts.....	\$17 00	\$15 11
Do.....	1st grade.....	England.....	12 25	10 89
Do.....	2d do.....	do.....	8 17	7 26
Chairmakers.....		Massachusetts.....	13 00	11 56
Do.....	1st grade.....	England.....	13 61	12 10
Do.....	2d do.....	do.....	8 17	7 26
Not admitting of comparison.				
Millmen.....		Massachusetts.....	14 00	12 44
Joiners.....		England.....	10 34	9 19
<i>Coach, Carriage and Wagon Building.</i>				
Bodymakers.....		Massachusetts.....	22 00	19 55
Do.....	1st grade.....	England.....	10 89	9 68
Do.....	2d do.....	do.....	7 63	6 78
Do.....		Germany.....	6 18	5 49
Carriagemakers.....	1st grade.....	Massachusetts.....	22 00	19 55
Do.....	2d do.....	do.....	19 00	16 88
Do.....	3d do.....	do.....	18 00	16 00
Do.....	1st do.....	England.....	9 80	8 71
Do.....	2d do.....	do.....	8 17	7 26
Do.....	3d do.....	do.....	7 63	6 78
Do.....	1st do.....	Germany.....	4 86	4 32
Do.....	2d do.....	do.....	4 05	3 60
Painters.....	1st grade.....	Massachusetts.....	21 00	18 67
Do.....	2d do.....	do.....	18 00	16 00
Do.....	1st do.....	England.....	9 26	8 23
Do.....	2d do.....	do.....	7 63	6 78
Do.....		Germany.....	4 86	4 32
Blacksmiths.....	1st grade.....	Massachusetts.....	21 00	18 67
Do.....	2d do.....	do.....	18 00	16 00
Do.....	3d do.....	do.....	15 00	13 33
Do.....	1st do.....	England.....	10 89	9 68
Do.....	2d do.....	do.....	8 17	7 26
Do.....		Germany.....	4 42	3 93
Helpers.....		Massachusetts.....	14 00	12 44
Do.....		England.....	4 35	3 87
Trimmers.....	1st do.....	Massachusetts.....	22 00	19 55
Do.....	2d do.....	do.....	20 00	17 78
Do.....	3d do.....	do.....	18 00	16 00
Do.....		Germany.....	7 29	6 48
Wheiwrights.....	1st do.....	Massachusetts.....	24 00	21 33
Do.....	2d do.....	do.....	21 00	18 66
Do.....	3d do.....	do.....	15 00	13 33
Do.....	1st do.....	England.....	10 89	9 68
Do.....	2d do.....	do.....	7 63	6 78
Do.....	3d do.....	do.....	7 08	6 29
Do.....	1st do.....	Ireland.....	7 63	6 78
Do.....	2d do.....	do.....	7 08	6 29
Do.....	3d do.....	do.....	6 54	5 81
Do.....	4th do.....	do.....	4 91	4 36
Do.....	1st do.....	Germany.....	5 54	4 92
Do.....	2d do.....	do.....	5 06	4 50
Do.....	3d do.....	do.....	4 05	3 60
Do.....	1st do.....	Prussia.....	8 10	7 20
Do.....	2d do.....	do.....	6 48	5 76
Do.....	1st do.....	France.....	6 01	5 34

## COMPARATIVE RATES OF WAGES.

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## RATES OF WAGES—CONTINUED.

OCCUPATIONS AND COUNTRIES.			AVERAGE WEEKLY WAGES.	
			Standard U. S. paper dollar of 1872.....	Standard gold,
<i>Coach, Carriage and Wagon Building—Continued.</i>				
Wheelwrights	2d grade	France	\$5 57	\$4 95
Do	3d do	do	2 70	2 40
Do	1st do	Switzerland	6 75	6 00
Do	2d do	do	5 40	4 80
Do	3d do	do	5 06	4 50
Do	1st do	Russia	7 56	6 72
Do	2d do	do	6 75	6 00
Do		Austria	6 75	6 00
Do		Denmark	5 74	5 10
Do		Italy	4 05	3 60
Do		Tunis, Africa	4 05	3 60
Not admitting of comparison.				
Piecemen	1st grade	England	7 08	6 29
Do	2d do	do	6 54	5 81
Do	1st do	do	2 72	2 42
Do	2d do	do	2 18	1 94
<i>Clothing.</i>				
Overseers	high grade	Massachusetts	40 00	35 56
Do	low do	do	15 00	13 33
Do		England	11 44	10 17
Cutters	1st grade	Massachusetts	25 00	22 22
Do	2d do	do	22 00	19 56
Do	3d do	do	20 00	17 78
Do	1st do	England	10 35	9 20
Do	2d do	do	8 17	7 25
Do		Scotland	6 41	5 70
Do		Germany	12 47	11 08
Pressers	1st grade	Massachusetts	26 00	23 11
Do	2d do	do	20 00	17 78
Do	3d do	do	16 00	15 33
Do	4th do	do	9 00	8 00
Do	1st do	England	8 17	7 26
Do	2d do	do	7 44	6 61
Do	3d do	do	4 77	4 24
Basters	women 1st do	Massachusetts	12 00	10 67
Do	do 2d do	do	9 00	8 00
Do	do 3d do	do	8 00	7 11
Do	do 4th do	do	6 00	5 33
Do	do 1st do	England	3 26	2 90
Do	do 2d do	do	2 59	2 30
Do	do 3d do	do	1 65	1 47
Machine operatives, do	1st class 1st do	Massachusetts	17 00	15 11
Do	do 2d do	do	15 00	13 33
Do	do 3d do	do	14 00	12 44
Do	do 2d class 1st do	do	10 00	8 89
Do	do 2d do	do	9 00	8 00
Do	do 3d do	do	8 00	7 11
Do	do 1st do	England	3 84	3 41
Do	do 2d do	do	3 26	2 90
Sewers or finishers, do	1st do	Massachusetts	7 00	6 22
Do	do 2d do	do	5 00	4 44
Do	do 3d do	do	4 00	3 56
Do		England	3 33	2 96
Tailors	1st do	Massachusetts	35 00	31 11
Do	2d do	do	30 00	26 67



## COMPARATIVE RATES OF WAGES.

## RATES OF WAGES—CONTINUED.

OCCUPATIONS AND COUNTRIES.			AV'GE WEEKLY WAGES.	
			Standard U. S. paper dollar of 1872.....	Standard gold,
<i>Clothing—Continued.</i>				
Tailors.....	3d grade.....	Massachusetts...	\$20 00	\$17 78
Do.....	4th. do.....	do.....	16 00	14 22
Do.....	1st. do.....	England.....	10 35	9 20
Do.....	2d. do.....	do.....	9 80	8 71
Do.....	3d. do.....	do.....	8 17	7 26
Do.....	1st. do.....	Scotland.....	7 63	6 78
Do.....	2d. do.....	do.....	6 54	5 81
Do.....	1st. do.....	Ireland.....	7 08	6 29
Do.....	2d. do.....	do.....	6 81	6 05
Do.....	3d. do.....	do.....	6 54	5 81
Do.....	1st. do.....	Germany.....	8 91	7 92
Do.....	2d. do.....	do.....	8 30	7 38
Do.....	3d. do.....	do.....	7 29	6 48
Do.....	4th. do.....	do.....	6 22	5 53
Do.....	5th. do.....	do.....	5 13	4 56
Do.....	6th. do.....	do.....	3 96	3 52
Do.....	7th. do.....	do.....	3 51	3 12
Do.....	1st. do.....	Prussia.....	7 29	6 48
Do.....	2d. do.....	do.....	5 67	5 04
Do.....	3d. do.....	do.....	4 26	3 79
Do.....	4th. do.....	do.....	3 38	3 00
Do.....	1st. do.....	Austria.....	16 88	15 00
Do.....	2d. do.....	do.....	10 13	9 00
Do.....	1st. do.....	France.....	8 10	7 20
Do.....	2d. do.....	do.....	6 75	6 00
Do.....	3d. do.....	do.....	6 41	5 70
Do.....	4th. do.....	do.....	3 85	3 42
Do.....	1st. do.....	Denmark.....	10 13	9 00
Do.....	2d. do.....	do.....	6 75	6 00
Do.....	1st. do.....	Switzerland.....	6 75	6 00
Do.....	2d. do.....	do.....	5 40	4 80
Do.....	3d. do.....	do.....	4 05	3 60
Do.....	do.....	Sicily, Italy.....	8 10	7 20
Do.....	1st. do.....	do.....	4 05	3 60
Do.....	2d. do.....	do.....	3 85	3 42
Do.....	1st. do.....	Russia.....	10 13	9 00
Do.....	2d. do.....	do.....	8 44	7 50
Do.....	do.....	Tunis, Africa.....	4 05	3 60
Not admitting of comparison.				
Trimmers.....	women.....	1st grade.....	Massachusetts...	15 00
Do.....	do.....	2d. do.....	do.....	12 00
Do.....	do.....	3d. do.....	do.....	11 00
<i>Carpetmaking.</i>				
Dyers.....	do.....	1st grade.....	Massachusetts...	30 00
Do.....	do.....	2d. do.....	do.....	15 00
Do.....	do.....	3d. do.....	do.....	12 00
Do.....	do.....	4th. do.....	do.....	10 50
Do.....	do.....	5th. do.....	do.....	9 36
Do.....	do.....	6th. do.....	do.....	9 00
Do.....	do.....	1st. do.....	England.....	8 17
Do.....	do.....	2d. do.....	do.....	6 40
Do.....	do.....	3d. do.....	do.....	4 96
Do.....	do.....	4th. do.....	do.....	4 42
Do.....	do.....	5th. do.....	do.....	3 81
Do.....	boys.....	1st grade.....	England.....	3 80
Do.....	do.....	2d. do.....	do.....	2 72

## RATES OF WAGES—CONTINUED.

OCCUPATIONS AND COUNTRIES.			AV'GE WEEKLY WAGES.	
			Standard U. S. paper dollar of 1872.....	Standard gold,
<i>Carpetmaking.—Continued.</i>				
Dyers.....	3d grade.....	England.....	\$1 63	\$1 45
Do.....		Germany.....	2 16	1 92
Beamers.....	females.....	Massachusetts.....	7 50	6 67
Do.....	males.....	England.....	6 81	6 05
Do.....	1st grade.....	do.....	5 99	5 32
Do.....	2d do.....	do.....	5 51	4 90
Do.....	3d do.....	do.....	4 89	4 35
Do.....	4th do.....	do.....		
Machinists.....	1st do.....	Massachusetts.....	30 00	26 67
Do.....	2d do.....	do.....	13 33	11 85
Do.....	3d do.....	do.....	12 00	10 67
Do.....	4th do.....	do.....	11 00	9 77
Do.....	5th do.....	do.....	10 00	8 88
Do.....	6th do.....	do.....	9 18	8 16
Do.....	1st do.....	England.....	8 71	7 74
Do.....	2d do.....	do.....	8 17	7 26
Do.....	3d do.....	do.....	7 08	6 29
Do.....	4th do.....	do.....	4 91	4 36
Patternmakers.....	1st do.....	Massachusetts.....	24 00	21 33
Do.....	2d do.....	do.....	21 00	18 67
Do.....	3d do.....	do.....	13 36	11 87
Do.....	4th do.....	do.....	11 00	9 77
Do.....	5th do.....	do.....	8 68	7 72
Do.....		England.....	7 63	6 78
Do.....	boys.....	do.....	2 72	2 42
Designers.....	highest grade.....	Massachusetts.....	76 92	68 40
Do.....	lowest do.....	do.....	12 00	10 67
Do.....		England.....	6 81	6 05
Finishing.....	1st grade.....	Massachusetts.....	18 00	16 00
Do.....	2d do.....	do.....	15 00	13 33
Do.....	3d do.....	do.....	11 76	10 45
Do.....	4th do.....	do.....	10 98	9 76
Do.....	5th do.....	do.....	9 00	8 00
Do.....	6th do.....	do.....	7 50	6 67
Do.....	females.....	do.....	6 60	5 86
Do.....	men.....	England.....	5 99	5 32
Do.....	women.....	do.....	2 64	2 35
Do.....	girls.....	do.....	1 90	1 69
Do.....	boys.....	do.....	2 99	2 66
Do.....	1st grade.....	do.....	2 59	2 30
Do.....	2d do.....	do.....	1 63	1 45
Do.....	3d do.....	do.....		
Card cleaners.....		Massachusetts.....	9 00	8 00
Do.....	men.....	England.....	5 16	4 59
Do.....	women.....	do.....	2 44	2 17
Do.....	boys.....	do.....	1 90	1 69
Do.....	girls.....	do.....	1 22	1 08
Winders and reelers, females.....		Massachusetts.....	6 30	5 60
Do.....	do.....	England.....	2 99	2 66
Do.....	do.....	do.....	2 59	2 30
Do.....	do.....	do.....	2 13	1 89
Do.....	do.....	do.....	1 72	1 53
Do.....	do.....	do.....	1 36	1 21
Do.....	girls.....	do.....		
Power-loom weavers, females.....		Massachusetts.....	8 40	7 46
Do.....	men.....	England.....	7 08	6 29
Do.....	do.....	do.....	6 26	5 56
Do.....	do.....	do.....	4 26	3 79
Do.....	do.....	do.....		
Do.....	do.....	Germany.....	2 03	1 80
Do.....	do.....	do.....	1 62	1 44

## COMPARATIVE RATES OF WAGES.

## RATES OF WAGES—CONTINUED.

OCCUPATIONS AND COUNTRIES.				AV'GE WEEKLY WAGES.	
				Standard U. S. paper dollar of 1872.....	Standard gold,
<i>Carpetmaking—Continued.</i>					
Carding.....	females.....		Massachusetts....	\$5 25	\$4 67
Do.....	do.....	1st grade.....	England.....	2 99	2 66
Do.....	do.....	2d do.....	do.....	1 77	1 57
Spinning.....	do.....		Massachusetts....	5 72	5 08
Do.....	do.....	1st do.....	England.....	2 45	2 18
Do.....	do.....	2d do.....	do.....	1 63	1 45
Do.....	do.....	3d do.....	do.....	1 36	1 21
Carding and spinning, men.....		1st do.....	do.....	8 71	7 74
Do.....	do.....	2d do.....	do.....	8 17	7 26
Do.....	do.....	3d do.....	do.....	4 76	4 23
Do.....	boys.....	1st do.....	do.....	3 26	2 90
Do.....	do.....	2d do.....	do.....	2 72	2 42
Do.....	do.....	3d do.....	do.....	2 04	1 81
Do.....	do.....	4th do.....	do.....	1 08	. 96
Do.....	women.....		do.....	2 72	2 42
Do.....	children.....		do.....	95	84
Not admitting of comparison.					
Hand-loom weavers.....		1st grade.....	England.....	4 89	4 35
Do.....		2d do.....	do.....	3 80	3 38
Do.....		3d do.....	do.....	3 26	2 90
Do.....		4th do.....	do.....	2 17	1 93
Do.....		1st do.....	Germany.....	3 24	2 88
Do.....		2d do.....	do.....	2 43	2 16
Power-loom weavers, apprentices.....			England.....	4 89	4 35
Do.....	sorters.....		do.....	8 17	7 26
Do.....	washers.....	1st grade.....	do.....	5 99	5 32
Do.....	do.....	2d do.....	do.....	5 45	4 84
Overlookers.....		1st do.....	do.....	10 89	9 68
Do.....		2d do.....	do.....	6 27	5 57
Engineers.....			England.....	10 89	9 68
Turkish carpet-makers, Silesia, Germany:					
Males.....		1st grade.....	Germany.....	3 24	2 88
Do.....		2d do.....	do.....	2 03	1 80
Females.....		1st do.....	do.....	2 43	2 16
Do.....		2d do.....	do.....	1 22	1 08
<i>Corsetmaking.</i>					
Forewoman.....			Massachusetts....	12 00	10 67
Do.....			England.....	5 45	4 84
Overlookers.....	females.....		Massachusetts....	8 00	7 11
Do.....	do.....		England.....	1 90	1 69
Needle hands.....	do.....		Massachusetts....	8 00	7 11
Do.....	do.....	1st grade.....	England.....	2 18	1 94
Do.....	do.....	2d do.....	Germany.....	2 03	1 80
Do.....	do.....		do.....	1 62	1 44
Embroiderers.....	do.....		Massachusetts....	8 00	7 11
Do.....	do.....		England.....	2 99	2 66
Boners.....	do.....		Massachusetts....	8 00	7 11
Do.....	do.....		England.....	2 45	2 18
Eyeleters.....	do.....		Massachusetts....	8 00	7 11
Do.....	boys and girls.....		England.....	2 18	1 94
Machine hands.....	females.....		Massachusetts....	9 00	8 00
Do.....	do.....		England.....	3 54	3 15
Pressers.....	men.....		Massachusetts....	10 00	8 89
Do.....	do.....		England.....	10 89	9 68
Cutters.....	do.....		Massachusetts....	18 00	16 00



## RATES OF WAGES—CONTINUED.

OCCUPATIONS AND COUNTRIES.				AV'GE WEEKLY WAGES.	
				Standard U.S. paper dollar of 1872.....	Standard gold,
<i>Corsetmaking—Continued.</i>					
Cutters.....	men.....		England	\$10 89	\$9 68
Do.....	females.....	1st grade	Germany	2 03	1 80
Do.....	do.....	2d do	do	1 62	1 44
Not admitting of comparison.					
Boxers.....	girls.....		England.	1 90	1 69
Fitters.....	females.....		do	4 08	3 63
<i>Cotton Manufactures—Carding.</i>					
Overseer.....		highest	Massachusetts...	30 00	26 67
Do.....		lowest	do	18 00	16 00
Do.....		1st grade	England.	13 61	12 10
Do.....		2d do	do	12 25	10 89
Do.....		3d do	do	9 53	8 47
Do.....		4th do	do	8 17	7 26
Do.....		5th do	do	7 62	6 77
Do.....		6th do	do	7 08	6 29
Do.....			Germany	4 32	3 84
Openers and pickers, men.....		1st do	Massachusetts...	9 00	8 00
Do.....	do.....	2d do	do	8 32	7 40
Do.....	do.....	3d do	do	7 50	6 67
Boys.....		1st do	do	6 00	5 33
Do.....		2d do	do	4 20	3 73
Pickers.....	females.....		England.	3 36	2 90
Strippers.....		1st do	Massachusetts...	9 00	8 00
Do.....		2d do	do	8 39	7 46
Do.....		3d do	do	7 50	6 67
Do.....		4th do	do	6 72	5 97
Do.....		1st do	England	5 98	5 32
Do.....		2d do	do	4 89	4 35
Do.....		3d do	do	4 35	3 87
Grinders.....		1st do	Massachusetts...	9 75	8 67
Do.....		2d do	do	9 00	8 00
Do.....		3d do	do	8 64	7 68
Do.....		4th do	do	7 50	6 67
Do.....		1st do	England	5 98	5 32
Do.....		2d do	do	5 71	5 08
Do.....		1st do	Germany	4 05	3 60
Do.....		2d do	do	3 64	3 24
Framers, includ'g stubber, intermediate and flyer:					
Women.....		1st grade	Massachusetts...	8 09	7 19
Do.....		2d do	do	7 50	6 67
Do.....		3d do	do	6 38	5 67
Do.....		4th do	do	5 70	5 07
Boys and girls.....		1st do	do	5 88	5 23
Do.....	do.....	2d do	do	4 80	4 27
Do.....	do.....	3d do	do	4 20	3 73
Women.....		1st do	England.	4 49	3 99
Do.....		2d do	do	3 99	3 55
Do.....		3d do	do	3 36	2 90
Do.....		4th do	do	2 45	2 18
Girls.....			do	1 77	1 57
<i>Spinning.</i>					
Overseers.....		1st grade	Massachusetts...	30 00	26 67
Do.....		2d do	do	16 50	14 67
Do.....		1st do	England.	16 34	14 52
Do.....		2d do	do	10 89	9 68

## COMPARATIVE RATES OF WAGES.

## RATES OF WAGES—CONTINUED.

OCCUPATIONS AND COUNTRIES.			AV'GE WEEKLY WAGES.	
			Standard U. S. paper dollar of 1872.....	Standard gold,
<i>Spinning—Continued.</i>				
Overseers	3d grade	England	\$9 53	\$8 47
Do.	4th. do.	do	8 17	7 26
Do.	1st. do.	Germany	4 32	3 84
Do.	2d. do.	do	3 85	3 42
Mule spinners	men	Massachusetts	14 28	12 69
Do.	do	do	12 84	11 41
Do.	do	do	9 00	8 00
Do.	women	do	8 10	7 20
Do.	do	do	6 75	6 00
Do.	do	do	6 41	5 70
Do.	men, pay their own piecers	England	17 70	15 73
Do.	do	do	14 97	13 31
Do.	do	do	10 89	9 68
Do.	do	do	9 26	8 23
Backboys	1st. do.	Massachusetts	5 22	4 64
Do.	2d. do.	do	4 20	3 73
Do.	3d. do.	do	3 00	2 67
Do.	1st. do.	England	2 99	2 66
Do.	2d. do.	do	2 17	1 93
Do.	3d. do.	do	1 50	1 33
Frame spinners, women	1st. do.	Massachusetts	6 01	5 34
Do.	do	do	5 16	4 59
Do.	boys and girls	do	6 00	5 33
Do.	do	do	5 16	4 59
Do.	do	do	4 20	3 70
Do.	men	England	7 08	6 29
Do.	boys	do	1 63	1 45
Do.	do	do	81	72
General hands including piecers, doffers, &c.:				
Boys	1st grade	Massachusetts	6 00	5 33
Do.	2d. do.	do	4 50	4 00
Do.	3d. do.	do	3 00	2 67
Women	1st. do.	England	2 72	2 42
Do.	2d. do.	do	2 45	2 18
Halftimers			68	60
Young persons	1st. do.	do	4 35	3 87
Do.	2d. do.	do	4 08	3 63
Do.	3d. do.	do	2 69	2 39
Do.	4th. do.	do	1 77	1 57
Spinners	spare hands	Massachusetts	5 10	4 53
Do.	young persons	do	5 16	4 59
Do.	spare hands	England	2 72	2 42
Do.	do	do	2 44	2 17
Do.	females	Scotland	2 72	2 42
Do.	do	do	2 45	2 18
Do.	1st. do.	Germany	3 85	3 42
Do.	2d. do.	do	3 65	3 24
Not admitting of comparison.				
Handmule spinners who employ own piecers:				
Men	1st grade	England	13 41	12 10
Do.	2d. do.	do	12 25	10 89
<i>Dressing.</i>				
Overseer	1st grade	Massachusetts	24 00	21 33
Do.	2d. do.	do	15 00	13 33
Do.	1st. do.	Germany	3 65	3 24

## RATES OF WAGES—CONTINUED.

OCCUPATIONS AND COUNTRIES.			AV'GE WEEKLY WAGES.	
			Standard U. S. paper dollar of 1872.....	Standard gold,
<i>Dressing—Continued.</i>				
Overseers	2d grade	Germany	\$3 24	\$2 88
Dressers.	1st do	Massachusetts	17 40	15 47
Do	2d do	do	12 27	10 91
Do	3d do	do	10 98	9 76
Do	4th do	do	10 50	9 33
Do	1st do	do	13 50	12 00
Do	2d do	do	9 72	8 64
Do		England	5 99	5 32
Drawers	1st grade	Massachusetts	7 56	6 72
Do	2d do	do	6 30	5 60
Do	3d do	do	5 16	4 59
Do	1st do	England	4 08	3 63
Do	2d do	do	3 60	3 20
Do	3d do	do	3 40	3 02
Do	4th do	do	2 99	2 66
Twisters.		Massachusetts	9 00	8 00
Do		do	6 00	5 33
Do		England	6 53	5 80
Do	1st grade	Germany	2 43	2 16
Do	2d do	do	1 93	1 74
Do	3d do	do	1 62	1 44
Not admitting of comparison.				
Second hands	1st grade	Massachusetts	16 39	14 57
Do	2d do	do	12 00	10 67
Third hands	(section)	do	9 90	8 80
Slashers		England	7 08	6 29
<i>Spooling.</i>				
Reelers	1st grade	Massachusetts	7 80	6 93
Do	2d do	do	6 60	5 87
Do	1st do	England	3 54	3 15
Do	2d do	do	3 12	2 77
Spoolers	1st do	Massachusetts	6 90	6 13
Do	2d do	do	6 38	5 67
Do	3d do	do	5 40	4 80
Do	4th do	do	4 50	4 00
Do	5th do	do	4 14	3 68
Do		do	5 10	4 53
Do	spare	do	5 04	4 48
Do	1st grade	Germany	1 62	1 44
Do	2d do	do	1 22	1 08
Do	3d do	do	1 08	96
Not admitting of comparison.				
Overseer		Massachusetts	16 50	14 67
Do	2d hand	do	10 50	9 33
Do	3d hand	do	9 48	8 43
Roomhand	1st grade	do	8 22	7 31
Do	2d do	do	7 50	6 67
Warpers, women and girls	1st do	do	8 82	7 84
Do	2d do	do	7 80	6 93
Do	3d do	do	6 36	5 65
Do	4th do	do	5 40	4 80
Do	6th do	do	4 80	4 27
Twillers		do	4 98	4 43
Do	boys	do	3 30	2 93



## COMPARATIVE RATES OF WAGES.

## RATES OF WAGES—CONTINUED.

				AV'GE WEEKLY WAGES.	
OCCUPATIONS AND COUNTRIES.				Standard U. S. paper dollar of 1872	Standard gold,
<i>Weaving.</i>					
Weavers	men or women	1st grade	Massachusetts	\$13 50	\$12 00
Do	do	2d do	do	12 00	10 67
Do	do	3d do	do	11 34	10 08
Do	do	4th do	do	10 02	8 91
Do	do	5th do	do	9 00	8 00
Do	do	6th do	do	8 58	7 63
Do	do	7th do	do	7 64	6 79
Do	do	8th do	do	6 12	5 44
Do	do	9th do	do	5 76	5 12
Do	young persons		do	7 44	6 61
Do	men or women	1st grade	England	6 81	6 05
Do	do	2d do	do	5 99	5 32
Do	do	3d do	do	4 98	4 43
Do	do	4th do	do	3 67	3 26
Do	do	5th do	do	2 99	2 66
Do	females	1st do	Scotland	3 81	3 39
Do	do	2d do	do	3 24	2 88
Do	men or women	1st do	Germany	3 71	3 30
Do	do	2d do	do	3 24	2 88
Do	do	3d do	do	2 23	1 98
Do	do	4th do	do	1 62	1 44
Not admitting of comparison.					
Overseer			Massachusetts	16 50	14 67
Sectionhand			do	12 00	10 67
<i>Dyeing.</i>					
Overseers			Massachusetts	24 00	21 33
Do		1st grade	Germany	4 43	3 94
Do		2d do	do	4 05	3 60
Dyers		1st do	Massachusetts	10 50	9 33
Do		2d do	do	9 60	8 53
Do		3d do	do	6 00	5 33
Do	boys	1st do	do	6 00	5 33
Do	do	2d do	do	3 00	2 67
Do		1st do	Germany	2 43	2 16
Do		2d do	do	2 03	1 80
Not admitting of comparison.					
Second hand			Massachusetts	13 50	12 00
Bundlers			do	9 78	8 69
<i>Cloth Room.</i>					
Women		1st grade	Massachusetts	7 98	7 09
Do		2d do	do	5 64	5 01
Do		3d do	do	4 98	4 43
Do		1st do	Germany	2 43	2 16
Do		2d do	do	2 03	1 80
Not admitting of comparison.					
Overseer			Massachusetts	16 50	14 67
Second hand			do	9 72	8 64
Men		1st grade	do	11 22	9 97
Do		2d do	do	10 32	9 17
Do		3d do	do	6 00	5 33
Young persons			do	5 40	4 80

## COMPARATIVE RATES OF WAGES.

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## RATES OF WAGES—CONTINUED.

OCCUPATIONS AND COUNTRIES.		AV'GE WEEKLY WAGES.	
		Standard U. S. paper dollar of 1872.....	Standard gold,
<i>Repair Shop.</i>			
Overseer.....	Massachusetts...	\$19 50	\$17 33
Do.....	England.....	16 34	14 52
Mechanics.....	1st grade..... Massachusetts...	17 22	15 31
Do.....	2d do..... do.....	10 02	8 91
Do.....	1st do..... England.....	9 20	8 18
Do.....	2d do..... do.....	8 71	7 74
Laborers.....	1st do..... Massachusetts...	12 84	11 41
Do.....	2d do..... do.....	11 40	10 13
Do.....	3d do..... do.....	9 00	8 00
Do.....	4th do..... do.....	6 00	5 33
Do.....	England.....	5 99	5 32
<i>Yard Hands.</i>			
Laborers.....	1st grade..... Massachusetts...	12 00	10 67
Do.....	2d do..... do.....	10 50	9 36
Do.....	3d do..... do.....	9 42	8 37
Do.....	4th do..... do.....	7 50	6 67
Do.....	England.....	4 89	4 35
Do.....	Germany.....	3 65	3 24
<i>Not admitting of comparison.</i>			
Overseer.....	Massachusetts...	12 00	10 67
Teamster.....	do.....	12 00	10 67
Engineers.....	England.....	7 62	6 77
Watchmen.....	Germany.....	2 84	2 52
<i>Operatives, not classified.</i>			
Males.....	do.....	4 56	4 05
Do.....	1st grade..... Prussia.....	8 10	7 20
Do.....	2d do..... do.....	4 86	4 32
Females.....	1st do..... do.....	3 94	3 50
Do.....	2d do..... do.....	3 38	3 00
Do.....	3d do..... do.....	3 24	2 88
Do.....	4th do..... do.....	2 43	2 16
Children.....	1st do..... do.....	2 43	2 16
Do.....	2d do..... do.....	2 25	2 00
Do.....	3d do..... do.....	2 03	1 80
Do.....	4th do..... do.....	1 62	1 44
Cotton spinneries.....	highest wages, Austria.....	6 48	5 76
Do.....	lowest do..... do.....	1 29	1 15
Cotton factories.....	highest wages, do.....	4 05	3 60
Do.....	lowest do..... do.....	1 29	1 15
Do.....	women..... 1st grade..... Switzerland.....	2 70	2 40
Do.....	do..... 2d do..... do.....	2 03	1 80
Do.....	men..... 1st do..... Italy.....	3 85	3 42
Do.....	do..... 2d do..... do.....	2 45	2 18
Do.....	women..... 1st do..... do.....	1 92	1 71
Do.....	do..... 2d do..... do.....	1 28	1 14
<i>Dressmakers and Milliners.</i>			
Dressmakers, managers, females.....	Massachusetts...	15 00	13 33
Do.....	do..... England.....	20 87	18 55
Do.....	without board and lodging..... Massachusetts...	8 00	7 11
Do.....	with board and lodging..... 1st grade..... England.....	8 35	7 42
Do.....	do..... 2d do..... do.....	7 08	6 29
Do.....	do..... 3d do..... do.....	3 13	2 78
Do.....	do..... 4th do..... do.....	1 16	1 03

## COMPARATIVE RATES OF WAGES.

## RATES OF WAGES—CONTINUED.

OCCUPATIONS AND COUNTRIES.			AV'GE WEEKLY WAGES.	
			Standard U. S. paper dollar of 1872.....	Standard gold,
<i>Dressmakers and Milliners—Continued.</i>				
Dressmakers, tea only.....	1st grade.....	England.....	\$7 35	\$6 53
Do.....do.....	2d do.....	do.....	6 81	6 05
Do.....do.....	3d do.....	do.....	6 27	5 57
Do.....do.....	4th do.....	do.....	4 98	4 43
Do.....do.....	5th do.....	do.....	4 20	3 73
Do.....do.....	6th do.....	do.....	2 86	2 54
Do.....do.....	7th do.....	do.....	2 05	1 82
Do.....do.....	8th do.....	do.....	1 63	1 45
Do.....without board and lodging, 1st do.....		Germany.....	6 48	5 76
Do.....do.....do.....	2d do.....	do.....	5 67	5 04
Do.....do.....do.....	3d do.....	do.....	2 43	2 16
Do.....do.....do.....	4th do.....	do.....	2 03	1 80
Do.....do.....do.....	1st do.....	Prussia.....	6 48	5 76
Do.....do.....do.....	2d do.....	do.....	4 05	3 60
Managers.....females.....		Massachusetts.....	15 00	13 33
Milliners.....		do.....	8 00	7 11
Do.....with board and lodging, 1st do.....		England.....	6 81	6 05
Do.....do.....do.....	2d do.....	do.....	5 06	4 50
Do.....do.....do.....	3d do.....	do.....	3 95	3 51
Do.....do.....do.....	4th do.....	do.....	2 57	2 28
Do.....do.....do.....	5th do.....	do.....	1 88	1 67
Do.....do.....do.....	6th do.....	do.....	1 56	1 39
<i>Envelopemaking.</i>				
Cutters.....	1st grade.....	Massachusetts.....	21 00	18 66
Do.....do.....	2d do.....	do.....	18 00	16 00
Do.....do.....	3d do.....	do.....	16 50	14 67
Do.....do.....	1st do.....	England.....	10 35	9 20
Do.....do.....	2d do.....	do.....	6 81	6 05
Gummers.....females.....	1st do.....	Massachusetts.....	9 00	8 00
Do.....do.....do.....	2d do.....	do.....	8 00	7 11
Do.....do.....do.....	3d do.....	do.....	7 50	6 67
Do.....do.....do.....	1st do.....	England.....	5 45	4 84
Do.....do.....do.....	2d do.....	do.....	2 72	2 42
Stampers.....do.....	1st do.....	Massachusetts.....	9 00	8 00
Do.....do.....do.....	2d do.....	do.....	8 00	7 11
Do.....do.....do.....	3d do.....	do.....	6 00	5 33
Do.....do.....do.....	1st do.....	England.....	7 63	6 78
Do.....do.....do.....	2d do.....	do.....	4 08	3 63
Do.....do.....do.....	3d do.....	do.....	3 26	2 90
Do.....do.....do.....	4th do.....	do.....	2 04	1 81
Folders.....do.....	1st do.....	Massachusetts.....	8 50	7 56
Do.....do.....do.....	2d do.....	do.....	8 00	7 11
Do.....do.....do.....	1st do.....	England.....	5 99	5 32
Do.....do.....do.....	2d do.....	do.....	2 04	1 81
Machine hands.....do.....	1st do.....	Massachusetts.....	8 00	7 11
Do.....do.....do.....	2d do.....	do.....	7 50	6 67
Do.....do.....do.....	1st do.....	England.....	4 08	3 63
Do.....do.....do.....	2d do.....	do.....	1 36	1 21
<i>Glass Making</i>				
Blowers.....		Massachusetts.....	10 50	8 89
Do.....do.....	1st grade.....	Bohemia.....	9 00	8 00
Do.....do.....do.....	2d do.....	do.....	6 75	6 00
Do.....do.....do.....	3d do.....	do.....	5 40	4 80
Do.....do.....do.....	4th do.....	do.....	4 05	3 60
Rhinmen.....		Massachusetts.....	14 00	12 44
Do.....do.....		England.....	9 45	8 40



## RATES OF WAGES—CONTINUED.

OCCUPATIONS AND COUNTRIES.			AV'GE WEEKLY WAGES.	
			Standard U. S. paper dollar of 1872.....	Standard gold,
<i>Glassmaking—Continued.</i>				
Cutters.....		Massachusetts...	\$15 00	\$13 33
Do.....	1st grade	England.....	9 45	8 40
Do.....	2d do	do.....	7 02	6 24
Polishers.....		Massachusetts...	20 00	17 78
Do.....	1st do	England.....	10 89	9 68
Do.....	2d do	do.....	9 45	8 40
Do.....	boys	do.....	2 70	2 40
Do.....	females	1st do..... Bohemia	2 25	2 00
Do.....	do	2d do..... do	1 35	1 20
Not admitting of comparison.				
Gaffers.....		Massachusetts...	18 00	16 00
Seviters.....		do.....	15 00	13 33
Footmakers.....		do.....	15 00	13 33
Pressers.....		do.....	13 50	12 00
Gatherers at press.....		do.....	12 00	10 67
Takers-in, boys.....		do.....	4 00	3 56
Strikers-up.....		do.....	8 00	7 11
Ware-wheelers.....		do.....	10 50	9 11
Engravers.....		do.....	20 50	18 22
Mixers.....		do.....	12 00	10 67
Women and girls.....		do.....	5 00	4 44
Founders.....		England.....	9 86	8 76
Crucible fillers.....		do.....	9 72	8 64
Grinding, men.....		do.....	10 26	9 12
Grinding, boys.....		do.....	2 16	1 92
Smoothing, men.....		do.....	8 10	7 20
Smoothing, women.....		do.....	2 70	2 40
Casters.....	1st grade	do.....	9 53	8 47
Do.....	2d do	do.....	8 17	7 26
Workmen in factories.....	1st do	Austria.....	9 72	8 64
Do.....	2d do	do.....	97	86
<i>Hats and Caps—Wool.</i>				
Finishers.....	1st grade	Massachusetts...	21 00	18 67
Do.....	2d do	do.....	17 50	15 56
Do.....	1st do	England.....	16 34	14 52
Do.....	2d do	do.....	10 89	9 68
Do.....	3d do	do.....	8 17	7 20
Trimmers, women.....	1st do	Massachusetts...	9 25	8 22
Do.....	2d do	do.....	9 00	8 00
Do.....	1st do	England.....	5 45	4 84
Do.....	2d do	do.....	3 13	2 78
Do.....	3d do	do.....	2 72	2 42
Do.....	boys	1st do..... Massachusetts...	10 50	9 33
Do.....	do	2d do..... do	4 20	3 72
Do.....		England.....	1 36	1 21
<i>Silk.</i>				
Shapers.....		Massachusetts...	25 00	22 22
Do.....	1st grade	England.....	21 78	19 36
Do.....	2d do	do.....	16 34	14 52
Do.....	3d do	do.....	10 89	9 68
Bojymen.....		Massachusetts...	19 23	17 09
Do.....	1st grade	England.....	13 61	12 10
Do.....	2d do	do.....	10 89	9 68
Do.....	3d do	do.....	8 17	7 26

## RATES OF WAGES—CONTINUED.

OCCUPATIONS AND COUNTRIES.			AV'GE WEEKLY WAGES.	
			Standard U. S. paper dollar of 1872 .....	Standard gold,
<i>Hats and Caps—Silk—Continued.</i>				
Machines.....	women	Massachusetts...	\$10 00	\$8 89
Do.....	do	England.....	4 08	3 63
<i>Wool—(Not admitting of comparison.)</i>				
Carders.....	1st grade	Massachusetts...	21 00	18 67
Do.....	2d do	do.....	12 00	10 67
Do.....	3d do	do.....	9 00	8 00
Do.....	4th do	do.....	7 25	6 44
Do.....	5th do	do.....	6 00	5 33
Plankers.....	1st do	do.....	13 50	12 00
Do.....	2d do	do.....	12 00	10 67
Do.....	3d do	do.....	9 00	8 00
Blocking.....		do.....	16 20	14 40
Hardeners.....		do.....	12 00	10 67
General work.....		do.....	15 00	13 33
Sewers.....	females	England.....	2 79	2 48
<i>Fur.</i>				
Makers.....	1st grade	Massachusetts...	20 00	17 78
Do.....	2d do	do.....	14 00	12 44
Finishers.....	1st do	do.....	25 00	22 22
Do.....	2d do	do.....	14 00	12 44
Trimmers.....	women 1st do	do.....	12 00	10 67
Do.....	do 2d do	do.....	8 00	7 11
<i>Silk.</i>				
Finishers.....		Massachusetts...	23 08	20 52
Trimmers.....	women	do.....	11 00	9 78
Plush sewers.....	do	do.....	10 00	8 89
<i>Not classified.</i>				
Feltmen.....	1st grade	England.....	12 25	10 89
Do.....	2d do	do.....	9 80	8 71
Hatters.....		do.....	9 53	8 47
Do.....	1st grade	Germany.....	8 10	7 20
Do.....	2d do	do.....	6 75	6 00
Do.....		Prussia.....	4 86	4 32
<i>Iron Manufacture—Merchant Mills.</i>				
Heaters.....		Massachusetts...	24 00	21 33
Do.....	1st grade	England.....	13 61	12 10
Do.....	2d do	do.....	9 66	8 59
Do.....		Germany.....	4 86	4 32
Rollers.....		Massachusetts...	12 00	10 67
Do.....		England.....	13 61	12 10
Do.....		Prussia.....	5 67	5 04
Laborers.....		Massachusetts...	10 50	9 33
Do.....	1st grade	England.....	8 17	7 26
Do.....	2d do	do.....	6 54	5 81
Do.....	3d do	do.....	4 80	4 27
Do.....	4th do	do.....	4 08	3 63
Do.....	1st do	Germany.....	4 86	4 32
Do.....	2d do	do.....	4 05	3 60
Do.....		Prussia.....	4 86	4 32
Weighmen.....		Massachusetts...	10 00	8 88
Do.....		England.....	6 81	6 05
Patternmakers.....		Massachusetts...	24 00	21 33
Do.....	1st grade	England.....	9 26	8 23

## COMPARATIVE RATES OF WAGES.

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## RATES OF WAGES—CONTINUED.

OCCUPATIONS AND COUNTRIES.			AVERAGE WEEKLY WAGES.	
			Standard U. S. paper dollar of 1872.....	Standard gold.
<i>Iron Manufacture—Merchant Mills—Continued.</i>				
Patternmakers.....	2d grade.....	England.....	\$7 90	\$7 02
Do.....	3d ..do.....	do.....	7 39	6 57
Do.....	4th..do.....	do.....	6 12	5 44
Do.....	5th..do.....	do.....	5 03	4 47
Do.....	1st ..do.....	Germany.....	6 89	6 12
Do.....	2d ..do.....	do.....	6 08	5 40
Do.....	3d ..do.....	do.....	5 20	4 62
Joiners.....		Massachusetts.....	18 00	16 00
Do.....	1st grade.....	England.....	7 89	7 01
Do.....	2d ..do.....	do.....	7 28	6 47
Do.....	3d ..do.....	do.....	5 72	5 08
Do.....	4th..do.....	do.....	5 03	4 47
Do.....	1st ..do.....	Germany.....	6 89	6 12
Do.....	2d ..do.....	do.....	6 08	5 40
<i>Puddling Forge.</i>				
Puddlers.....		Massachusetts.....	27 00	24 00
Do.....	1st grade.....	England.....	12 25	10 89
Do.....	2d ..do.....	do.....	11 69	10 39
Do.....	3d ..do.....	do.....	9 80	8 71
Do.....	4th..do.....	do.....	9 53	8 74
Do.....	1st ..do.....	do.....	9 72	8 64
Do.....	2d ..do.....	do.....	7 29	6 48
Do.....	3d ..do.....	do.....	4 46	3 96
Do.....	1st ..do.....	Prussia.....	10 53	9 36
Do.....	2d ..do.....	do.....	9 72	8 64
Do.....	3d ..do.....	do.....	6 08	5 40
Shinglers.....		Massachusetts.....	27 00	24 00
Do.....	1st ..do.....	England.....	21 78	19 36
Do.....	2d ..do.....	do.....	14 98	13 31
Laborers.....		Massachusetts.....	9 00	8 00
Do.....	1st ..do.....	England.....	8 17	7 26
Do.....	2d ..do.....	do.....	6 40	5 69
Do.....	3d ..do.....	do.....	5 11	4 54
Do.....	4th..do.....	do.....	4 08	3 63
Do.....	5th..do.....	do.....	3 74	3 32
Do.....	1st ..do.....	Germany.....	4 86	4 32
Do.....	2d ..do.....	do.....	4 05	3 60
Do.....		Prussia.....	4 86	4 32
Puddlers' helpers.....		Massachusetts.....	11 22	9 97
Do.....	1st ..do.....	England.....	8 99	7 99
Do.....	2d ..do.....	do.....	6 54	5 81
Do.....	3d ..do.....	do.....	5 45	4 84
Do.....	4th..do.....	do.....	4 89	4 35
Not admitting of comparison.				
Weighmen.....	1st grade.....	England.....	6 53	5 80
Do.....	2d ..do.....	do.....	4 89	4 35
Chargers.....			4 08	3 63
Workmen in blast furnaces.....				
Do.....	rail mills.....			
Do.....	plate mills.....			
<i>Jute Manufactures.</i>				
Spinners.....		Massachusetts.....	8 75	7 78
Do.....		Scotland.....	7 35	6 53
Do.....	boys.....	Massachusetts.....	5 50	4 89



## COMPARATIVE RATES OF WAGES.

## RATES OF WAGES—CONTINUED.

				AVERAGE WEEKLY WAGES.	
OCCUPATIONS AND COUNTRIES.				Standard U. S. paper dollar of 1872.....	Standard gold,
<i>Jute Manufactures—Continued.</i>					
Spinners.....	boys.....	1st grade.....	Scotland.....	\$2 18	\$1 94
Do.....	do.....	2d do.....	do.....	1 90	1 69
Do.....	women.....	1st do.....	Massachusetts...	8 75	7 78
Do.....	do.....	2d do.....	do.....	7 50	6 67
Do.....	do.....	3d do.....	do.....	6 00	5 33
Do.....	do.....	1st do.....	Scotland.....	2 72	2 42
Do.....	do.....	2d do.....	do.....	2 50	2 22
Do.....	do.....	3d do.....	do.....	2 31	2 05
Shifters.....	girls.....	.....	Massachusetts...	3 75	3 33
Do.....	do.....	1st do.....	Scotland.....	1 56	1 39
Do.....	do.....	2d do.....	do.....	1 01	90
Piecers.....	do.....	.....	Massachusetts...	4 00	3 56
Do.....	do.....	1st do.....	Scotland.....	1 90	1 69
Do.....	do.....	2d do.....	do.....	1 22	1 08
Bobbin carriers, men.....	.....	.....	Massachusetts...	7 50	6 67
Do.....	do.....	boys.....	Scotland.....	1 22	1 08
Winders.....	do.....	.....	Massachusetts...	3 96	3 52
Do.....	do.....	.....	Scotland.....	2 17	1 93
Do.....	women and girls.....	1st do.....	Massachusetts...	7 25	6 44
Do.....	do.....	2d do.....	do.....	5 00	4 44
Packing.....	do.....	2d do.....	Scotland.....	4 08	3 63
Mechanics.....	do.....	.....	Massachusetts...	16 50	14 67
Do.....	do.....	1st do.....	Scotland.....	7 62	6 77
Do.....	do.....	2d do.....	do.....	6 81	6 05
Oilers.....	do.....	1st do.....	Massachusetts...	8 50	7 56
Do.....	do.....	2d do.....	do.....	7 50	6 67
Do.....	do.....	3d do.....	do.....	7 00	6 22
Do.....	do.....	.....	Scotland.....	4 22	3 75
Weavers.....	female.....	1st do.....	Massachusetts...	13 50	12 00
Do.....	do.....	2d do.....	do.....	8 50	7 56
Do.....	do.....	3d do.....	do.....	8 00	7 11
Do.....	do.....	4th do.....	do.....	5 28	4 69
Do.....	do.....	1st do.....	Scotland.....	3 26	2 90
Do.....	do.....	2d do.....	do.....	2 86	2 54
Do.....	do.....	3d do.....	do.....	2 51	2 23
Carders.....	do.....	1st do.....	Massachusetts...	10 50	9 33
Do.....	do.....	2d do.....	do.....	8 00	7 11
Do.....	do.....	3d do.....	do.....	7 00	6 22
Do.....	do.....	4th do.....	do.....	6 50	5 78
Do.....	boys.....	.....	do.....	5 00	4 44
Do.....	do.....	.....	Scotland.....	2 31	2 05
Rovers.....	do.....	1st do.....	Massachusetts...	7 50	6 67
Do.....	do.....	2d do.....	do.....	5 50	4 89
Do.....	do.....	.....	Scotland.....	2 31	2 05
Drawers.....	do.....	.....	Massachusetts...	4 50	4 00
Do.....	do.....	.....	Scotland.....	2 17	1 93
Feeders.....	boys.....	1st do.....	Massachusetts...	6 50	5 78
Do.....	do.....	.....	Scotland.....	2 24	1 99
Bundlers.....	do.....	.....	Massachusetts...	8 50	7 56
Do.....	do.....	.....	Scotland.....	2 99	2 66
Winders.....	women.....	.....	Scotland.....	2 31	2 05
Reelers.....	do.....	.....	Massachusetts...	8 00	7 11
Do.....	do.....	1st do.....	Scotland.....	2 13	2 78
Do.....	do.....	2d do.....	do.....	2 31	2 05
Warpers.....	do.....	.....	Massachusetts...	5 00	4 44
Do.....	do.....	.....	Scotland.....	2 17	1 93
Packing department.....	do.....	.....	Massachusetts...	9 00	8 00
Do.....	do.....	1st do.....	Scotland.....	5 99	5 32

## RATES OF WAGES—CONTINUED.

OCCUPATIONS AND COUNTRIES.			AVERAGE WEEKLY WAGES.	
			Standard U. S. paper dollar of 1872.....	Standard gold,
Not admitting of comparison.				
Warpers.....	men	Massachusetts	\$10 00	\$8 89
Weavers.....	do	do	13 50	12 00
Calender.....	do	do	10 00	8 89
Batching.....	do	do	7 00	6 22
Sparemen.....	1st grade	do	8 00	7 11
Do.....	2d do	do	5 00	4 44
Twisters.....		Scotland	2 51	2 23
Repairing.....	1st do	do	2 17	1 93
Do.....	2d do	do	1 77	1 57
Tenters.....		do	6 81	6 05
Do.....	assistant	do	4 89	4 35
Half-timers.....		do	54	48
<i>Locomotive Engine Making.</i>				
Fitters.....		Massachusetts	16 20	14 40
Do.....		Scotland	6 81	6 05
Finishers.....		Massachusetts	16 20	14 40
Do.....		Scotland	6 81	6 05
Machinists, including turners.....		Massachusetts	16 20	14 40
Do.....	do	Scotland	6 81	6 05
Shapers.....		Massachusetts	16 20	14 40
Do.....		Scotland	6 81	6 05
Planers.....		Massachusetts	16 20	14 40
Do.....		Scotland	6 81	6 05
Slotters.....		Massachusetts	16 20	14 40
Do.....		Scotland	6 81	6 05
Drillers.....		Massachusetts	11 48	10 20
Do.....		Scotland	4 35	3 87
Erectors and boiler mounters.....		Massachusetts	14 40	12 80
Same branches.....		Scotland	7 35	6 53
Patternmakers.....		Massachusetts	19 80	17 60
Do.....		Scotland	7 62	6 77
Iron and brass moulders.....		Massachusetts	16 50	14 67
Same branches.....		Scotland	7 88	7 00
Coppersmiths.....		Massachusetts	18 00	16 00
Do.....		Scotland	7 62	6 77
Boilermakers.....		Massachusetts	16 50	14 67
Do.....		Scotland	7 03	6 25
Smiths.....		Massachusetts	18 00	16 00
Do.....		Scotland	7 03	6 25
Forgemen, or helpers.....		Massachusetts	11 48	10 20
Do.....		Scotland	9 53	8 47
Laborers.....		Massachusetts	9 60	8 53
Do.....		Scotland	4 08	3 63
Steamhammermen.....		Massachusetts	22 50	20 00
Hammermen.....		Scotland	4 62	4 11
Not admitting of comparison.				
Grinders.....		Scotland	8 44	7 50
<i>Railroad shops.</i>				
Machinists.....		Massachusetts	17 00	15 11
Patternmakers.....		do	19 50	17 33
Coppersmiths.....		do	19 50	17 33
Boilermakers.....		do	19 50	17 33
Smiths.....		do	17 00	15 11
Forgemen, or helpers.....		do	12 00	10 67

## COMPARATIVE RATES OF WAGES.

## RATES OF WAGES—CONTINUED.

OCCUPATIONS AND COUNTRIES.			AV'GE WEEKLY WAGES.	
			Standard U. S. paper dollar of 1872.....	Standard gold,
<i>Watchmaking.</i>				
Men.....		Massachusetts.....	\$18 00	\$16 00
Do.....	1st grade.....	England.....	4 91	4 36
Do.....	2d do.....	do.....	4 08	3 63
Women and girls.....		Masachusetts.....	4 50	4 00
Do.....	1st grade.....	England.....	2 95	2 62
Do.....	2d do.....	do.....	2 58	2 29
Do.....	3d do.....	do.....	2 18	1 94
Boys over 13.....		do.....	1 90	1 69
Girls, one-half timers.....		do.....	68	60
Boys.....	timers.....	do.....	96	85
Do.....	1st grade.....	do.....	72	64
Do.....	2d do.....	do.....		
<i>Preserved Meats, Pickles, &amp;c.</i>				
Men.....	1st grade.....	Massachusetts.....	15 00	13 33
Do.....	2d do.....	do.....	13 50	12 00
Do.....		England.....	5 72	5 08
Women.....		Massachusetts.....	5 00	4 44
Do.....		England.....	3 24	2 88
<i>Not admitting of comparison.</i>				
Packers.....		England.....	7 91	7 03
Corkers.....	men.....	do.....	8 44	7 50
Do.....	women.....	do.....	4 05	3 60
Labellers.....		do.....	4 05	3 60
Boys.....	1st grade.....	do.....	2 72	2 42
Do.....	2d do.....	do.....	1 63	1 45
<i>Printing.</i>				
Compositors, book.....	males.....	1st grade.....	Massachusetts.....	32 50
Do.....	do.....	2d do.....	do.....	18 00
Do.....	do.....	3d do.....	do.....	12 00
Do.....	do.....	4th do.....	do.....	6 00
Do.....	weekly papers.....	do.....	do.....	15 20
Do.....	dailies.....	do.....	1st grade.....	do.....
Do.....	do.....	do.....	2d do.....	do.....
Do.....	do.....	do.....	3d do.....	do.....
Do.....	do.....	do.....	4th do.....	do.....
Do.....	book.....	females.....	1st do.....	do.....
Do.....	do.....	do.....	2d do.....	do.....
Do.....	do.....	do.....	3d do.....	do.....
Do.....	do.....	do.....	4th do.....	do.....
Do.....	do.....	do.....	5th do.....	do.....
Do.....	do.....	do.....	6th do.....	do.....
Do.....	weeklies.....	do.....	1st do.....	do.....
Do.....	do.....	do.....	2d do.....	do.....
Do.....	do.....	do.....	3d do.....	do.....
Do.....	book.....	males.....	1st do.....	England.....
Do.....	do.....	do.....	2d do.....	do.....
Do.....	do.....	do.....	3d do.....	do.....
Do.....	do.....	do.....	4th do.....	do.....
Do.....	do.....	do.....	5th do.....	do.....
Do.....	do.....	do.....	6th do.....	do.....
Do.....	do.....	do.....	7th do.....	do.....
Do.....	do.....	do.....	8th do.....	do.....
Do.....	weeklies.....	do.....	1st do.....	do.....
Do.....	do.....	do.....	2d do.....	do.....
Do.....	do.....	do.....	3d do.....	do.....



## COMPARATIVE RATES OF WAGES.

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## RATES OF WAGES—CONTINUED.

OCCUPATIONS AND COUNTRIES.				AV'GE WEEKLY WAGES.	
				Standard U. S. paper dollar of 1872.....	Standard gold,
<i>Printing.—Continued.</i>					
Compositors, dailies	males	1st grade	England	\$10 89	\$9 68
Do	do	2d	do	9 26	8 23
Do	do	3d	do	8 71	7 74
Do	book	1st	Scotland	10 89	9 68
Do	do	2d	do	9 53	8 47
Do	do	3d	do	8 17	7 26
Do	do	4th	do	7 70	6 84
Do	do	5th	do	7 48	6 65
Do	dailies	1st	do	14 97	13 31
Do	do	2d	do	11 71	10 41
Do	do	3d	do	10 89	9 68
Do	do	4th	do	9 53	8 47
Do	do	5th	do	8 85	7 87
Do	do	6th	do	8 17	7 26
Pressmen, jobbing	do	1st	Massachusetts	19 00	16 89
Do	do	2d	do	17 50	15 56
Do	do	3d	do	15 00	13 33
Do	do	4th	do	14 00	12 44
Do	do	5th	do	12 00	10 67
Do	do	females	do	7 00	6 22
Do	do	boys	1st	6 00	5 33
Do	do	2d	do	3 00	2 67
Do	book & weekl's	men	1st	22 00	19 56
Do	do	2d	do	18 75	16 27
Do	do	3d	do	18 00	16 00
Do	do	4th	do	15 20	13 51
Do	do	apprentices	do	7 00	6 22
Do	do	females	do	7 00	6 22
Do	dailies	males	1st grade	25 00	22 22
Do	do	2d	do	21 00	18 67
Do	do	3d	do	18 00	16 00
Do	do	4th	do	15 00	13 33
Do	jobb'g, book, week's, &c.,	1st	England	13 61	12 10
Do	do	2d	do	12 12	10 77
Do	do	3d	do	11 16	9 92
Do	do	4th	do	9 53	8 47
Do	do	5th	do	8 63	7 67
Do	do	6th	do	7 63	6 78
Do	do	7th	do	5 45	4 84
Do	do	boys	do	1 63	1 45
Do	on dailies	males	do	9 26	8 23
Do	jobb'g, book, week's, &c.,	1st grade	Scotland	10 89	9 68
Do	do	2d	do	9 53	8 47
Do	do	3d	do	8 44	7 50
Do	do	4th	do	7 48	6 65
Do	do	females	1st	3 24	2 88
Do	do	2d	do	1 63	1 45
Do	do	3d	do	1 09	97
Do	do	boys	1st	4 91	4 36
Do	do	2d	do	4 35	3 87
Do	do	3d	do	2 72	2 42
Do	do	4th	do	1 63	1 45
Do	do	5th	do	1 09	97
Not admitting of comparison.					
Proof-readers		1st grade	Massachusetts	45 00	40 00
Do		2d	do	20 00	17 78

## COMPARATIVE RATES OF WAGES

RATES OF WAGES—Continued.

OCCUPATIONS AND COUNTRIES.			AV'GE WEEKLY WAGES.	
			Standard U. S. paper dollar of 1872.....	Standard gold,
<i>Printing—Continued.</i>				
Printers.....	1st grade.....	Massachusetts...	\$18 00	\$16 00
Do.....	2d do.....	do.....	13 33	11 85
Do.....	boys.....	do.....	6 50	5 78
Do.....	do..... 1st grade.....	Germany.....	8 10	7 20
Do.....	do..... 2d do.....	do.....	6 58	5 85
Do.....	do..... 3d do.....	do.....	5 40	4 80
Do.....	do..... 1st do.....	Austria.....	2 59	2 30
Do.....	do..... 2d do.....	do.....	2 10	1 87
<i>Paper Manufacture.</i>				
Foremen.....		Massachusetts...	18 00	16 00
Do.....		Germany.....	3 51	3 12
Millwrights.....		Massachusetts...	18 00	16 00
Do.....		Germany.....	5 27	4 68
Rag engine tenders.....		Massachusetts...	16 50	14 67
Do.....		England.....	6 53	5 80
Do.....		Germany.....	3 24	2 88
Paper machine tenders, men.....	1st grade.....	Massachusetts...	18 00	16 00
Do.....	do..... 2d do.....	do.....	12 00	10 66
Do.....	do..... 3d do.....	do.....	10 00	8 89
Do.....		England.....	6 53	5 80
Finishing room..... men.....	1st grade.....	Massachusetts...	13 50	12 00
Do.....	do..... 2d do.....	do.....	12 00	10 66
Do.....	do..... 1st do.....	England.....	7 08	6 29
Do.....	do..... 2d do.....	do.....	5 99	5 32
Do.....	do..... 3d do.....	do.....	5 45	4 84
Helpers.....	1st do.....	Massachusetts...	9 75	8 67
Do.....	2d do.....	do.....	9 00	8 00
Do.....	1st do.....	England.....	5 16	4 59
Do.....	2d do.....	do.....	4 62	4 11
Do.....	3d do.....	do.....	4 08	3 63
Do.....	1st do.....	Germany.....	3 11	2 76
Do.....	2d do.....	do.....	2 43	2 16
Finishing girls.....		Massachusetts...	7 80	6 93
Finishing room..... girls.....	1st grade.....	England.....	3 53	3 14
Do.....	do..... 2d do.....	do.....	2 44	2 17
Do.....	do..... 3d do.....	do.....	1 63	1 45
Cutters..... men.....		Massachusetts...	10 00	8 89
Do.....	do.....	England.....	4 05	3 60
Bleachers.....		Massachusetts...	10 00	8 89
Do.....		England.....	4 89	4 35
Do.....		Germany.....	3 24	2 88
Machine assistants..... boys.....		Massachusetts...	7 50	6 66
Do.....	do.....	England.....	3 26	2 90
Female assistants.....	1st grade.....	do.....	3 80	3 38
Do.....	2d do.....	do.....	2 86	2 54
Do.....	3d do.....	do.....	1 68	1 49
Do.....	4th do.....	do.....	1 08	96
Rag sorters.....		Massachusetts...	4 50	4 00
Do.....	females.....	England.....	2 72	2 42
Do.....	do.....	Germany.....	1 62	1 44
Men on stock.....		Massachusetts...	10 50	9 33
Women on stock.....		England.....	2 72	2 42
<i>Not admitting of comparison.</i>				
Engineers.....	1st grade.....	Massachusetts...	13 50	12 00
Do.....	2d do.....	do.....	12 00	10 66

## RATES OF WAGES—CONTINUED.

OCCUPATIONS AND COUNTRIES			AVERAGE WEEKLY WAGES.	
			Standard U. S. paper dollar of 1872.....	Standard gold,
<i>Paper Manufacture—Continued.</i>				
Thrashermen.....	Massachusetts...		\$10 00	\$8 89
Cutters, girls.....	do .....		6 00	5 33
Firemen.....	do .....		10 00	8 89
Half-timers.....	1st grade .....	England .....	1 08	96
Do .....	2d ..do.....	do .....	54	48
Makers, wall paper.....	Germany .....		4 05	3 60
Employees in paper factories, girls.....	1st grade .....	do .....	3 24	2 88
Do .....	do .....	do .....	1 62	1 44
Do .....	do .....	hands, 1st ..do.....	4 86	4 32
Do .....	do .....	do .....	1 29	1 15
Men.....	1st grade .....	Belgium.....	12 15	10 80
Do .....	2d ..do.....	do .....	3 65	3 24
Women.....	1st ..do.....	do .....	1 45	1 29
Do .....	2d ..do.....	do .....	1 22	1 08
Laborers.....	1st ..do.....	do .....	3 04	2 70
Do .....	2d ..do.....	do .....	1 82	1 62
<i>Ropemaking.</i>				
Hand spinners.....	Massachusetts...		13 25	11 78
Do .....	1st grade .....	England.....	7 35	6 53
Do .....	2d ..do.....	do .....	6 27	5 57
Machine spinners .....	Massachusetts...		10 00	8 89
Do .....	England.....		6 54	5 81
Do .....	women .....	Massachusetts...	6 00	5 33
Do .....	do .....	England.....	1 90	1 69
Do .....	boys .....	Massachusetts...	4 75	4 22
Do .....	do .....	England.....	2 45	2 18
Ropemakers.....	Massachusetts...		14 00	12 44
Do .....	England.....		5 99	5 32
Do .....	boys .....	Massachusetts...	5 00	4 44
Do .....	do .....	England.....	2 72	2 42
Teamsters.....	Massachusetts...		11 00	9 78
Do .....	England.....		5 45	4 84
Making up and packing, men.....	Massachusetts...		10 50	9 33
Do .....	do .....	England.....	5 99	5 32
Engineers .....	Massachusetts...		18 00	16 00
Do .....	England.....		7 63	6 78
Blacksmiths.....	Massachusetts...		15 00	13 33
Do .....	England.....		7 08	6 29
Carpenters.....	Massachusetts...		15 00	13 33
Do .....	England.....		6 54	5 81
Not admitting of comparison.				
Filemen.....	Massachusetts...		11 00	9 78
Machinists.....	do .....		17 50	15 56
Laborers.....	do .....		11 00	9 78
<i>Rubber manufactures.</i>				
Skilled workmen—Men.....	1st grade .....	Massachusetts...	21 00	18 67
Do .....	do .....	do .....	18 00	16 00
Do .....	do .....	do .....	15 00	13 33
Do .....	do .....	do .....	14 00	12 44
Do .....	do .....	do .....	12 00	10 67
Do .....	do .....	1st ..do.....	16 34	14 52
Do .....	do .....	2d ..do.....	10 89	9 68
Do .....	do .....	3d ..do.....	8 44	7 50
Do .....	do .....	4th ..do.....	7 08	6 29



## COMPARATIVE RATES OF WAGES.

## RATES OF WAGES—CONTINUED.

OCCUPATIONS AND COUNTRIES.			AV'GE WEEKLY WAGES.	
			Standard U. S. paper dollar of 1872.....	Standard gold,
<i>Rubber Manufactures—Continued.</i>				
Ordinary workmen—Men.....	1st grade.....	Massachusetts...	\$12 00	\$10 67
Do.....do.....	2d do.....	do.....	10 80	9 60
Do.....do.....	3d do.....	do.....	9 96	8 85
Do.....do.....	4th do.....	do.....	9 50	8 44
Do.....do.....	1st do.....	England.....	6 80	6 04
Do.....do.....	2d do.....	do.....	5 72	5 08
Do.....do.....	3d do.....	do.....	5 00	4 44
Do.....do.....	4th do.....	do.....	4 35	3 87
Do.....Boys.....	1st do.....	Massachusetts...	7 00	6 22
Do.....do.....	2d do.....	do.....	6 00	5 33
Do.....do.....	3d do.....	do.....	4 00	3 56
Do.....do.....	1st do.....	England.....	3 80	3 38
Do.....do.....	2d do.....	do.....	2 99	2 66
Do.....do.....	3d do.....	do.....	1 77	1 57
Do.....do.....	4th do.....	do.....	1 36	1 21
Do.....Women.....	1st do.....	Massachusetts...	8 50	7 56
Do.....do.....	2d do.....	do.....	8 00	7 11
Do.....do.....	3d do.....	do.....	7 00	6 22
Do.....do.....	1st do.....	England.....	4 91	4 36
Do.....do.....	2d do.....	do.....	3 81	3 39
Do.....do.....	3d do.....	do.....	3 26	2 90
Do.....do.....	4th do.....	do.....	2 45	2 18
Do.....Girls.....	1st do.....	Massachusetts...	7 00	6 22
Do.....do.....	2d do.....	do.....	6 00	5 33
Do.....do.....	1st do.....	England.....	2 45	2 18
Do.....do.....	2d do.....	do.....	1 63	1 45
Do.....do.....	3d do.....	do.....	1 09	97
Mechanical hands—Men.....	1st do.....	Massachusetts...	20 00	17 78
Do.....do.....	2d do.....	do.....	18 00	16 00
Do.....do.....	3d do.....	do.....	16 00	14 22
Do.....do.....	1st do.....	England.....	5 72	5 08
Do.....do.....	2d do.....	do.....	3 81	3 39
Do.....do.....	3d do.....	do.....	3 26	2 90
<i>Ship Building—Wooden Ships.</i>				
Carpenters, old work.....		Massachusetts...	24 00	21 33
Do.....new do.....		do.....	18 00	16 00
Do.....out doors.....		England.....	11 43	10 16
Do.....in shop.....		do.....	9 80	8 71
Do.....do.....		Scotland.....	7 35	6 53
Boat-builders.....		Massachusetts...	15 00	13 33
Do.....do.....		England.....	9 80	8 71
Do.....do.....		Scotland.....	7 35	6 53
Calkers.....old work.....		Massachusetts...	24 00	21 33
Do.....new do.....		do.....	18 00	16 00
Do.....do.....		England.....	9 80	8 71
Do.....do.....		Scotland.....	5 99	5 32
Joiners.....old work.....		Massachusetts...	24 00	21 33
Do.....new do.....		do.....	18 00	16 00
Do.....do.....		England.....	8 98	7 98
Do.....do.....		Scotland.....	7 41	6 59
Painters.....		Massachusetts...	15 00	13 33
Do.....do.....		England.....	8 24	7 32
Do.....do.....		Scotland.....	8 17	7 26
Riggers.....		Massachusetts...	21 00	18 67
Do.....do.....		England.....	8 17	7 26
Do.....do.....		Scotland.....	7 08	6 29

## RATES OF WAGES—CONTINUED.

OCCUPATIONS AND COUNTRIES.			AV'GE WEEKLY WAGES.	
			Standard U. S. paper dollar, of 1872.....	Standard gold,
<i>Marine Engineering.</i>				
Draughtsmen.....		Massachusetts...	\$21 00	\$18 67
Do.....		Scotland.....	9 25	8 22
Pattern-makers.....		Massachusetts...	19 20	17 07
Do.....	1st grade	England.....	9 80	8 71
Do.....	2d do.	do.....	9 26	8 23
Do.....	1st do.	Scotland.....	7 21	6 41
Do.....	2d do.	do.....	6 53	5 80
Blacksmiths.....		Massachusetts...	16 50	14 67
Do.....	1st do.	England.....	10 61	9 43
Do.....	2d do.	do.....	9 80	8 71
Do.....	1st do.	Scotland.....	7 35	6 53
Do.....	2d do.	do.....	6 81	6 05
Hammermen.....		Massachusetts...	30 00	26 67
Do.....		England.....	5 99	5 32
Do.....		Scotland.....	4 35	3 87
Machinists.....		Massachusetts...	16 80	14 93
Do.....	1st do.	England.....	9 80	8 71
Do.....	2d do.	do.....	9 25	8 22
Do.....	3d do.	do.....	8 17	7 26
Do.....	4th do.	do.....	7 08	6 29
Do.....	5th do.	do.....	5 45	4 84
Do.....	1st do.	Scotland.....	6 81	6 05
Do.....	2d do.	do.....	6 49	5 77
Do.....	3d do.	do.....	6 19	5 50
Borers.....		Massachusetts...	15 00	13 33
Do.....		Scotland.....	4 42	3 93
Boilermakers.....		Massachusetts...	15 00	13 33
Do.....	1st grade	England.....	9 80	8 71
Do.....	2d do.	do.....	8 99	7 99
Do.....	3d do.	do.....	8 17	7 26
Do.....	1st do.	Scotland.....	7 28	6 47
Do.....	2d do.	do.....	6 12	5 44
Helpers and laborers, men.....		Massachusetts...	12 00	10 67
Do.....	boys.....	do.....	5 00	4 44
Do.....	men.....	England.....	6 27	5 57
Do.....	2d do.	do.....	5 72	5 08
Do.....	3d do.	do.....	4 91	4 36
Do.....	1st do.	Scotland.....	5 99	5 32
Do.....	2d do.	do.....	3 80	3 38
Do.....	1st do.	Austria.....	6 48	5 76
Do.....	2d do.	do.....	2 62	2 33
Not admitting of comparison.				
Workmen on iron ships.....				
<i>Safe and Lockmaking.</i>				
Men.....	1st grade	Massachusetts...	18 00	16 00
Do.....	2d do.	do.....	16 50	14 67
Do.....	1st do.	England.....	24 68	21 94
Do.....	2d do.	do.....	14 97	13 31
Do.....	3d do.	do.....	11 43	10 16
Do.....	4th do.	do.....	8 17	7 26
Laborers.....		Massachusetts...	10 00	8 89
Do.....	1st grade	England.....	9 53	8 47
Do.....	2d do.	do.....	4 89	4 35
Not admitting of comparison.				
Boys and young persons.....	1st grade.....	England.....	3 53	3 14

## COMPARATIVE RATES OF WAGES.

## RATES OF WAGES—Continued.

OCCUPATIONS AND COUNTRIES.			AVERAGE WEEKLY WAGES.	
			Standard U. S. paper dollar of 1872.....	Standard gold,
<i>Safe and Lock making—Continued.</i>				
Boys and young persons.....	2d grade.....	England.....	\$1 63	\$1 45
Women.....	1st do.....	do.....	3 53	3 14
Do.....	2d do.....	do.....	2 44	2 17
<i>Soap and Candle Making.</i>				
Men.....	1st grade.....	Massachusetts...	15 00	13 33
Do.....	2d do.....	do.....	14 00	12 44
Do.....	3d do.....	do.....	13 00	11 56
Do.....	4th do.....	do.....	12 75	11 33
Do.....		England.....	6 48	5 76
Candle making.....		Massachusetts...	12 00	10 67
Do.....		England.....	5 40	4 80
Soap factory, girls.....		Massachusetts...	5 00	4 44
Do.....	boys.....	England.....	2 70	2 40
Do.....	do.....	do.....	1 35	1 20
<i>Type Foundries.</i>				
Casters.....		Massachusetts...	18 00	16 00
Do.....	1st grade.....	England.....	8 98	7 98
Do.....	2d do.....	do.....	7 62	6 77
Do.....	1st do.....	Germany.....	8 10	7 20
Do.....	2d do.....	do.....	5 40	4 80
Rubbers.....	females.....	Massachusetts...	8 00	7 11
Do.....	men.....	England.....	6 53	5 80
Do.....	do.....	do.....	4 89	4 35
Dressers.....		Massachusetts...	25 00	22 22
Do.....	2d grade.....	England.....	8 98	7 98
Boys.....		Massachusetts...	4 00	3 56
Do.....	1st grade.....	England.....	2 72	2 42
Do.....	2d do.....	do.....	1 36	1 21
Girls, (small,).....		Massachusetts...	4 00	3 56
<i>Tanners and Curriers.</i>				
Splitters.....		Massachusetts...	18 00	16 00
Knifemen.....	1st grade.....	do.....	17 00	15 11
Do.....	2d do.....	do.....	16 00	14 22
Do.....	3d do.....	do.....	15 00	13 33
Do.....	4th do.....	do.....	14 00	12 44
Tablemen.....	1st do.....	do.....	12 50	11 11
Do.....	2d do.....	do.....	12 00	10 67
Do.....	3d do.....	do.....	11 00	9 78
Do.....	4th do.....	do.....	9 50	8 44
Curriers.....	1st grade.....	England.....	10 26	9 12
Do.....	2d do.....	do.....	10 02	8 91
Do.....	3d do.....	do.....	8 91	7 92
Do.....	4th do.....	do.....	8 17	7 26
Do.....	5th do.....	do.....	4 91	4 36
Tanners.....	1st grade.....	Massachusetts...	12 75	11 33
Do.....	2d do.....	do.....	12 20	10 84
Do.....	3d do.....	do.....	11 94	10 61
Do.....	4th do.....	do.....	11 57	10 28
Do.....	5th do.....	do.....	10 13	9 00
Do.....	1st grade.....	England.....	8 64	7 68
Do.....	2d do.....	do.....	6 24	7 02
Do.....	3d do.....	do.....	5 14	5 78
Do.....	4th do.....	do.....	6 21	5 52
Do.....	boys.....	do.....	3 11	2 76



## COMPARATIVE RATES OF WAGES.

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## RATES OF WAGES—CONTINUED.

OCCUPATIONS AND COUNTRIES.			AV'GE WEEKLY WAGES.	
			Standard U. S. paper dollar of 1872.....	Standard gold,
<i>Tanners and Curriers—Continued.</i>				
Tanners	1st grade	Ireland	\$6 54	\$5 81
Do	2d do	do	4 91	4 36
Do	1st do	Germany	5 67	5 04
Do	2d do	do	4 96	4 41
Do	3d do	do	3 92	3 48
Do	4th do	do	3 58	3 18
Do		Prussia	6 48	5 76
Do	1st grade	Austria	8 10	7 20
Do	2d do	do	3 24	2 88
Do	3d do	do	2 76	2 45
Do	1st do	Italy	5 77	5 13
Do	2d do	do	4 73	4 20
Do	3d do	do	3 85	3 42
Do	1st do	Switzerland	6 75	6 00
Do	2d do	do	4 05	3 60
Do		Denmark	5 40	4 80
Do	1st grade	France	6 75	6 00
Do	2d do	do	6 41	5 70
Do	3d do	do	5 40	4 80
Do	4th do	do	4 73	4 20
Do	5th do	do	2 70	2 40
Do	1st do	Russia	7 56	6 72
Do	2d do	do	6 75	6 00
Do		Tunis, Africa	2 50	2 22
<i>Tobacco and Cigars.</i>				
Strippers	1st grade	Massachusetts	8 00	7 11
Do	2d do	do	7 00	6 22
Do	1st do	England	6 54	5 81
Do	2d do	do	5 99	5 32
Do	3d do	do	4 08	3 63
Do	4th do	do	3 26	2 90
Do	5th do	do	2 45	2 18
Do	boys	Massachusetts	7 00	6 22
Do	1st grade	England	5 45	4 84
Do	2d do	do	3 26	2 90
Do	3d do	do	2 72	2 42
Do	4th do	do	1 90	1 69
Packers		Massachusetts	20 00	17 77
Do	1st grade	England	6 81	6 05
Do	2d do	do	4 08	3 63
Do		Belgium	3 36	2 99
Cigarmakers	1st grade	Massachusetts	22 00	19 59
Do	2d do	do	17 00	15 11
Do	3d do	do	15 00	13 33
Do	1st do	England	10 89	9 68
Do	2d do	do	8 17	7 26
Do	women	do	4 08	3 63
Do	2d do	do	2 72	2 42
Do	1st do	Scotland	9 26	8 23
Do	2d do	do	6 27	5 57
Do	1st do	Germany	6 48	5 76
Do	2d do	do	4 86	4 32
Do	men	Prussia	4 86	4 32
Do	women	do	2 84	2 52
Do		Belgium	4 28	3 80
Foreman		Massachusetts	20 00	17 77
Do		Scotland	9 53	8 47

## COMPARATIVE RATES OF WAGES.

## RATE OF WAGES—CONTINUED.

OCCUPATIONS AND COUNTRIES.			AVERAGE WEEKLY WAGES.	
			Standard U. S. paper dollar of 1873.....	Standard gold,
<i>Tobacco and Cigars—Not admitting of comparison—Continued.</i>				
Cutters....	1st grade.....	England.....	9 53	8 47
Do.....	2d do.....	do.....	7 21	6 41
Do.....	3d do.....	do.....	6 81	6 05
Dryers.....	1st do.....	do.....	8 17	7 26
Do.....	2d do.....	do.....	4 91	4 36
Spinners.....	1st do.....	do.....	9 53	8 47
Do.....	2d do.....	do.....	8 17	7 26
Do.....	3d do.....	do.....	6 81	6 05
Do.....		Scotland.....	6 81	6 05
Sorters.....	1st grade.....	England.....	8 17	7 26
Do.....	2d do.....	do.....	6 81	6 05
Snuffmakers.....	1st do.....	do.....	6 81	6 05
Do.....	2d do.....	do.....	5 72	5 08
Do.....	1st do.....	England.....	4 91	4 36
Do.....	2d do.....	do.....	1 36	1 21
Do.....	1st do.....	Scotland.....	1 36	1 21
Do.....	2d do.....	do.....	1 16	1 03
Do.....	3d do.....	do.....	68	60
Do.....	1st do.....	do.....	2 18	1 94
Do.....	2d do.....	do.....	1 63	1 45
Do.....	3d do.....	do.....	82	73
Do.....	1st do.....	Germany.....	2 43	2 16
Do.....	2d do.....	do.....	1 22	1 08
Do.....	girls and women.....	Belgium.....	1 61	1 43
Half-timers.....	1st grade.....	Scotland.....	41	36
Do.....	2d do.....	do.....	34	30
<i>Woolen Manufactures—Washing and Sorting.</i>				
Washing.....	men.....	Massachusetts.....	9 00	8 00
Do.....	1st grade.....	England.....	5 92	5 08
Do.....	2d do.....	do.....	5 18	4 60
Do.....	3d do.....	do.....	4 35	3 87
Do.....	1st do.....	Germany.....	6 48	5 76
Do.....	2d do.....	do.....	5 81	5 16
Do.....	3d do.....	do.....	3 87	3 44
Do.....	4th do.....	do.....	2 70	2 40
Do.....	5th do.....	do.....	2 43	2 16
Do.....	1st do.....	Prussia.....	4 05	3 60
Do.....	2d do.....	do.....	2 84	2 52
Do.....	3d do.....	do.....	2 03	1 80
Do.....		Austria.....	1 58	1 40
Sorting.....	men.....	Massachusetts.....	12 00	10 67
Do.....	2d do.....	do.....	10 73	9 54
Do.....	3d do.....	do.....	10 06	8 94
Do.....	4th do.....	do.....	9 30	8 82
Do.....	1st do.....	do.....	6 00	5 33
Do.....	2d do.....	do.....	4 80	4 27
Do.....	1st do.....	England.....	8 99	7 99
Do.....	2d do.....	do.....	8 17	7 26
Do.....	3d do.....	do.....	7 21	6 41
Do.....	4th do.....	do.....	6 26	5 56
Do.....	5th do.....	do.....	5 51	4 90
Do.....	6th do.....	do.....	4 89	4 35
Do.....	1st do.....	Germany.....	6 48	5 76
Do.....	2d do.....	do.....	5 67	5 04
Do.....	3d do.....	do.....	2 94	2 61
Do.....	4th do.....	do.....	2 57	2 28

## COMPARATIVE RATES OF WAGES.

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## RATES OF WAGES—CONTINUED.

OCCUPATIONS AND COUNTRIES.				AV'GE WEEKLY WAGES.	
				Standard U. S. paper dollar of 1872.....	Standard gold,
<i>Woolen Manufactures—Washing and Sorting—Continued.</i>					
Sorting	women.	1st. do.	Germany	\$2 57	\$2 28
Do.	do.	2d. do.	do	1 69	1 50
Do.	do.	3d. do.	do	1 22	1 08
Do.	men or women.	1st. do.	Prussia	2 43	2 16
Do.	do.	2d. do.	do	1 76	1 56
Do.	do.	3d. do.	do	1 42	1 26
Do.	do.	1st. do.	Austria	2 70	2 40
Do.	do.	2d. do.	do	1 96	1 74
Do.	do.	3d. do.	do	1 06	94
<i>Scouring, Dyeing and Drying.</i>					
Scouring	men.	1st grade.	Massachusetts...	9 30	8 82
Do.	do.	2d. do.	do	8 38	7 45
Do.	do.	3d. do.	do	6 75	6 00
Dyeing	do.	1st. do.	do	10 02	8 91
Do.	do.	2d. do.	do	9 29	8 26
Do.	do.	3d. do.	do	7 50	6 67
Do.	do.	1st. do.	England	7 08	6 29
Do.	do.	2d. do.	do	5 85	5 20
Do.	do.	3d. do.	do	5 18	4 60
Do.	do.	4th. do.	do	4 62	4 11
Do.	do.	1st. do.	Germany	3 65	3 24
Do.	do.	2d. do.	do	2 85	2 53
Do.	do.	3d. do.	do	2 43	2 16
Do.	do.	1st. do.	Prussia	3 24	2 88
Do.	do.	2d. do.	do	2 88	2 56
Do.	do.	3d. do.	do	2 43	2 16
Do.	do.	1st. do.	Austria	2 16	1 92
Do.	do.	2d. do.	do	1 83	1 63
Do.	do.	3d. do.	do	1 67	1 48
Drying	do.	1st. do.	Massachusetts	9 70	8 62
Do.	do.	2d. do.	do	7 63	6 78
Do.	do.	3d. do.	do	6 75	6 00
Carding	do.	1st. do.	do	10 02	8 90
Do.	do.	2d. do.	do	9 72	8 64
Do.	do.	3d. do.	do	9 00	8 00
Do.	do.	4th. do.	do	8 27	7 35
Do.	do.	5th. do.	do	7 66	6 81
Do.	do.	6th. do.	do	6 76	6 01
Do.	do.	7th. do.	do	6 00	5 33
Do.	women.	1st. do.	do	6 00	5 33
Do.	do.	2d. do.	do	5 54	6 81
Do.	do.	3d. do.	do	4 60	4 09
Do.	do.	4th. do.	do	3 90	3 47
Do.	boys and girls.	1st. do.	do	5 40	4 80
Do.	do.	2d. do.	do	4 50	4 00
Do.	do.	3d. do.	do	3 00	2 67
Do.	men.	1st. do.	England	5 45	4 84
Do.	do.	2d. do.	do	5 03	4 47
Do.	do.	3d. do.	do	4 61	4 11
Do.	women.	1st. do.	do	5 53	3 14
Do.	do.	2d. do.	do	3 26	2 90
Do.	do.	3d. do.	do	2 72	2 42
Do.	girls and boys.	1st. do.	do	2 72	2 42
Do.	do.	2d. do.	do	2 44	2 17
Do.	do.	3d. do.	do	1 90	1 69
Do.	men.	1st. do.	Germany	2 88	3 24



## COMPARATIVE RATES OF WAGES.

## RATES OF WAGES—CONTINUED.

OCCUPATIONS AND COUNTRIES.				AV'GE WEEKLY WAGES.	
				Standard U.S. paper dollar of 1872.....	Standard gold,
<i>Scouring, Dyeing and Drying—Continued.</i>					
Carding.....	men.....	2d grade.....	Germany.....	\$3 24	\$2 88
Do.....	do.....	3d do.....	do.....	2 83	2 52
Do.....	women.....	1st do.....	do.....	3 24	2 88
Do.....	do.....	2d do.....	do.....	2 25	2 00
Do.....	do.....	3d do.....	do.....	1 89	1 68
Do.....	boys and girls.....	1st do.....	do.....	1 96	1 74
Do.....	do.....	2d do.....	do.....	1 62	1 44
Do.....	do.....	3d do.....	do.....	1 08	96
Do.....	men or women.....	1st do.....	Prussia.....	3 24	2 88
Do.....	do.....	2d do.....	do.....	2 93	2 60
Do.....	do.....	3d do.....	do.....	2 57	2 28
Do.....	do.....	1st do.....	Austria.....	2 03	1 80
Do.....	do.....	2d do.....	do.....	1 35	1 20
Spinning.....	men.....	1st do.....	Massachusetts.....	13 50	12 00
Do.....	do.....	2d do.....	do.....	12 48	11 09
Do.....	do.....	3d do.....	do.....	12 00	10 67
Do.....	do.....	4th do.....	do.....	10 37	9 22
Do.....	do.....	5th do.....	do.....	9 66	8 59
Do.....	do.....	6th do.....	do.....	9 00	8 00
Do.....	do.....	7th do.....	do.....	5 40	4 80
Do.....	women.....	1st do.....	do.....	8 04	7 15
Do.....	do.....	2d do.....	do.....	7 35	6 54
Do.....	young persons.....	do.....	do.....	5 40	4 80
Do.....	men.....	1st grade.....	England.....	8 72	7 75
Do.....	do.....	2d do.....	do.....	8 17	7 26
Do.....	do.....	3d do.....	do.....	7 62	6 77
Do.....	do.....	4th do.....	do.....	6 81	6 05
Do.....	do.....	5th do.....	do.....	6 26	5 56
Do.....	do.....	6th do.....	do.....	5 16	4 59
Do.....	do.....	7th do.....	do.....	4 08	3 63
Do.....	do.....	8th do.....	do.....	3 26	2 90
Do.....	women.....	1st do.....	do.....	2 86	2 54
Do.....	do.....	2d do.....	do.....	2 64	2 35
Do.....	do.....	3d do.....	do.....	2 44	2 17
Do.....	young persons.....	1st do.....	do.....	2 99	2 66
Do.....	do.....	2d do.....	do.....	2 41	2 14
Do.....	do.....	3d do.....	do.....	1 94	1 72
Do.....	do.....	4th do.....	do.....	1 36	1 31
Do.....	half-timers.....	1st do.....	England.....	95	84
Do.....	do.....	2d do.....	do.....	68	60
Do.....	men.....	1st do.....	Germany.....	8 10	7 20
Do.....	do.....	2d do.....	do.....	7 29	6 48
Do.....	do.....	3d do.....	do.....	4 86	4 32
Do.....	do.....	4th do.....	do.....	4 95	3 96
Do.....	do.....	5th do.....	do.....	3 85	3 42
Do.....	do.....	6th do.....	do.....	2 63	2 34
Do.....	do.....	7th do.....	do.....	2 43	2 16
Do.....	women.....	1st do.....	do.....	4 05	3 60
Do.....	do.....	2d do.....	do.....	3 24	2 88
Do.....	do.....	3d do.....	do.....	1 89	1 68
Do.....	young persons.....	1st do.....	do.....	3 24	2 88
Do.....	do.....	2d do.....	do.....	2 77	2 46
Do.....	do.....	3d do.....	do.....	1 62	1 44
Do.....	do.....	4th do.....	do.....	1 08	96
Do.....	do.....	5th do.....	do.....	81	72
Do.....	men.....	1st do.....	Prussia.....	4 86	4 32
Do.....	do.....	2d do.....	do.....	4 05	3 60

## COMPARATIVE RATES OF WAGES.

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## RATES OF WAGES—CONTINUED.

OCCUPATIONS AND COUNTRIES.				AV'GE WEEKLY WAGES.	
				Standard U. S. paper dollar in 1872.....	Standard gold,
<i>Scouring, Dyeing and Drying—Continued.</i>					
Spinning.....	men.....	3d grade.....	Prussia.....	\$3 24	\$2 88
Do.....	do.....	1st do.....	Austria.....	4 50	4 00
Do.....	do.....	2d do.....	do.....	4 05	3 60
Do.....	do.....	3d do.....	do.....	3 60	3 20
Do.....	do.....	4th do.....	do.....	2 70	2 40
Do.....	young persons.....	1st do.....	do.....	1 46	1 30
Do.....	do.....	2d do.....	do.....	1 24	1 10
Do.....	do.....	3d do.....	do.....	1 08	96
Do.....	do.....	4th do.....	do.....	95	84
<i>Spooling and warping:</i>					
Women and girls.....		1st grade.....	Massachusetts....	7 50	6 67
Do.....		2d do.....	do.....	7 38	6 56
Do.....		3d do.....	do.....	4 80	4 27
Do.....		4th do.....	do.....	4 20	3 73
Men or women.....		1st do.....	England.....	8 17	7 26
Do.....		2d do.....	do.....	7 08	6 29
Do.....		3d do.....	do.....	5 16	4 59
Do.....		4th do.....	do.....	3 94	3 50
Do.....		5th do.....	do.....	3 26	2 90
Men.....		1st do.....	Germany.....	8 10	7 20
Do.....		2d do.....	do.....	6 48	5 76
Do.....		3d do.....	do.....	4 94	4 39
Do.....		4th do.....	do.....	2 84	2 52
Women.....		1st do.....	do.....	3 24	2 88
Do.....		2d do.....	do.....	2 41	2 14
Do.....		3d do.....	do.....	1 62	1 44
Young persons.....		1st do.....	do.....	1 62	1 44
Do.....		2d do.....	do.....	1 35	1 20
Women.....			Prussia.....	2 03	1 80
Young persons.....		1st do.....	Austria.....	1 35	1 20
Do.....		2d do.....	do.....	1 10	98
Do.....		3d do.....	do.....	90	80
<i>Dressing.</i>					
Men.....		1st grade.....	Massachusetts....	12 75	11 33
Do.....		2d do.....	do.....	12 00	10 67
Do.....		3d do.....	do.....	10 07	8 95
Do.....		4th do.....	do.....	9 50	8 50
Do.....		5th do.....	do.....	9 00	8 00
Women.....			do.....	9 06	8 05
Men.....		1st do.....	England.....	9 53	8 47
Do.....		2d do.....	do.....	8 17	7 26
Do.....		3d do.....	do.....	7 08	6 29
Do.....		4th do.....	do.....	6 08	5 40
Do.....		5th do.....	do.....	5 45	4 84
Do.....			Germany.....	2 84	2 52
Do.....		1st do.....	Russia.....	2 43	2 16
Do.....		2d do.....	do.....	2 09	1 86
Do..... or women.....		1st do.....	Austria.....	1 71	1 52
Do..... do.....		2d do.....	do.....	1 13	1 00
<i>Weaving.</i>					
Men and women.....		1st grade.....	Massachusetts....	11 10	9 87
Do..... do.....		2d do.....	do.....	9 90	8 80
Do..... do.....		3d do.....	do.....	9 00	8 00
Do..... do.....		4th do.....	do.....	8 57	7 62
Do..... do.....		5th do.....	do.....	7 89	7 02
Do..... do.....		6th do.....	do.....	7 28	6 47
Do..... do.....		7th do.....	do.....	6 00	5 33

## COMPARATIVE RATE OF WAGES.

## RATES OF WAGES—CONTINUED.

OCCUPATIONS AND COUNTRIES.			AVERAGE WEEKLY WAGES.	
			Standard U. S. paper dollar of 1872.....	Standard gold,
<i>Weaving—Continued.</i>				
Girls.....		Massachusetts	\$4 80	\$4 27
Men.....	1st. do.	England	6 54	5 81
Do.....	2d. do.	do	5 45	4 84
Do.....	3d. do.	do	4 08	3 63
Women.....	1st. do.	do	4 91	4 36
Do.....	2d. do.	do	3 87	3 44
Do.....	3d. do.	do	3 13	2 78
Do.....	4th. do.	do	2 86	2 54
Men.....	1st. do.	Germany	8 10	7 20
Do.....	2d. do.	do	6 48	5 76
Do.....	3d. do.	do	4 86	4 32
Do.....	4th. do.	do	4 13	3 67
Do.....	5th. do.	do	3 24	2 88
Do.....	6th. do.	do	2 50	2 22
Do.....	7th. do.	do	1 62	1 44
Women.....	1st. do.	do	4 05	3 60
Do.....	2d. do.	do	3 24	2 88
Do.....	3d. do.	do	2 77	2 46
Do.....	4th. do.	do	2 05	1 82
Do.....	5th. do.	do	1 62	1 44
Young persons.....	1st. do.	Germany	2 84	2 52
Do.....	2d. do.	do	2 03	1 80
Men.....	1st. do.	Prussia	6 48	5 76
Do.....	2d. do.	do	4 69	4 17
Do.....	3d. do.	do	4 12	3 66
Do.....	4th. do.	do	3 24	2 88
Men and women.....	1st. do.	Austria	3 60	3 20
Do.....	2d. do.	do	3 15	2 80
Do.....	3d. do.	do	2 70	2 40
Do.....	4th. do.	do	1 31	1 16
<i>Fulling, Shearing, Giggling, Burling, Finishing and Packing.</i>				
Fulling.....	men.....	1st grade..... Massachusetts	10 02	8 91
Do.....	Do.....	2d. do..... do	8 50	7 56
Do.....	Do.....	3d. do..... do	7 50	6 67
Do.....	women.....	do..... do	8 22	7 31
Do.....	men.....	1st grade..... England	10 35	9 20
Do.....	Do.....	2d. do..... do	9 53	8 47
Do.....	Do.....	3d. do..... do	6 81	6 05
Do.....	Do.....	4th. do..... do	6 03	5 36
Do.....	Do.....	5th. do..... do	5 45	4 84
Do.....	Do.....	6th. do..... do	4 89	4 35
Do.....	Do.....	1st. do..... Germany	6 48	5 76
Do.....	Do.....	2d. do..... do	4 86	4 32
Do.....	Do.....	3d. do..... do	4 05	3 60
Do.....	Do.....	4th. do..... do	2 84	2 52
Do.....	Do.....	5th. do..... do	2 43	2 16
Do.....	young persons.....	1st. do..... England	2 03	1 80
Do.....	Do.....	2d. do..... do	1 62	1 44
Do.....	men.....	1st. do..... Prussia	3 24	2 88
Do.....	Do.....	2d. do..... do	2 93	2 60
Do.....	Do.....	3d. do..... do	2 59	2 30
Do.....	Do.....	do..... Austria	1 80	1 60
Do.....	women.....	do..... do	1 13	1 00
Shearing.....	men.....	1st grade..... Massachusetts	9 00	8 00
Do.....	Do.....	2d. do..... do	8 00	7 11
Do.....	Do.....	3d. do..... do	7 50	6 67
Do.....	Do.....	4th. do..... do	6 60	5 88



## COMPARATIVE RATE OF WAGES.

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## RATES OF WAGES—CONTINUED.

				AVERAGE WEEKLY WAGES.	
OCCUPATIONS AND COUNTRIES.				Standard U. S. paper dollar of 1872.....	Standard gold,
<i>Fulling, Shearing, &amp;c—Continued.</i>					
Shearing.....	boys.....	1st do.	Massachusetts...	\$4 50	\$4 00
Do.....	Do.....	2d do.	do	3 00	2 67
Gigging.....	men.....	1st do.	do	10 02	8 91
Do.....	Do.....	2d do.	do	8 38	7 45
Do.....	Do.....	3d do.	do	7 50	6 67
Do.....	Do.....	4th do.	do	6 78	6 03
Do.....	Do.....	1st do.	England.....	6 81	6 05
Do.....	Do.....	2d do.	do	6 26	5 56
Do.....	Do.....	3d do.	do	4 89	4 35
Do.....	boys.....	do	do	3 24	2 88
Do.....	men.....	do	Germany.....	3 78	3 36
Burling.....	men.....	do	Massachusetts...	8 56	7 61
Do.....	women and girls.....	1st grade	do	7 50	3 67
Do.....	Do.....	2d do.	do	6 56	5 83
Do.....	do.....	3d do.	do	6 00	5 33
Do.....	do.....	4th do.	do	5 22	4 64
Do.....	women.....	1st do.	England.....	3 54	3 15
Do.....	do.....	2d do.	do	2 86	2 54
Do.....	do.....	3d do.	do	2 18	1 94
Do.....	do.....	4th do.	do	1 36	1 21
Do.....	do.....	1st do.	Germany.....	2 43	2 16
Do.....	do.....	2d do.	do	2 16	1 92
Do.....	do.....	1st do.	Prussia.....	3 24	2 88
Do.....	do.....	2d do.	do	1 91	1 70
Do.....	do.....	3d do.	do	1 44	1 28
Do.....	do.....	1st do.	Austria.....	1 58	1 40
Do.....	do.....	2d do.	do	1 13	1 00
Do.....	do.....	3d do.	do	1 08	96
Finishing.....	men.....	1st do.	Massachusetts...	10 50	9 33
Do.....	do.....	2d do.	do	9 56	8 50
Do.....	do.....	3d do.	do	8 50	7 56
Do.....	do.....	4th do.	do	7 38	6 56
Do.....	do.....	5th do.	do	6 00	5 33
Do.....	women.....	1st do.	do	7 50	6 67
Do.....	do.....	2d do.	do	6 38	5 67
Do.....	do.....	3d do.	do	5 09	4 52
Do.....	do.....	4th do.	do	4 65	4 13
Do.....	do.....	5th do.	do	4 02	3 57
Do.....	boys and girls.....	1st do.	do	6 00	5 33
Do.....	do.....	2d do.	do	5 40	4 80
Do.....	do.....	3d do.	do	3 00	2 67
Do.....	men.....	1st do.	Germany.....	4 05	3 60
Do.....	do.....	2d do.	do	3 24	2 88
Do.....	women.....	1st do.	do	2 84	2 52
Do.....	do.....	2d do.	do	2 43	2 16
Packing.....	men.....	do	Massachusetts...	9 00	8 00
Do.....	women.....	do	do	6 94	6 17
Do.....	men.....	do	Germany.....	3 24	2 88
Do.....	women.....	do	do	1 49	1 32
<i>Repairing.</i>					
Carpenters.....	men.....	do	Massachusetts...	17 00	15 11
Do.....	do.....	do	England.....	8 99	7 99
Machinists, &c.....	do.....	1st grade	Massachusetts...	16 50	14 67
Do.....	do.....	2d do.	do	13 44	11 95
Do.....	do.....	3d do.	do	12 00	10 67
Do.....	do.....	4th do.	do	11 22	9 97

## COMPARATIVE RATES OF WAGES.

## RATES OF WAGES—CONTINUED.

				AVERAGE WEEKLY WAGES.	
OCCUPATIONS AND COUNTRIES.				Standard U. S. paper dollar of 1872.....	Standard gold,
<i>Repairing— Continued.</i>					
Machinists, &c.....	men.....	1st grade.....	England.....	\$8 99	\$7 99
Do.....	do.....	2d. do.....	do.....	8 17	7 26
Do.....	do.....	3d. do.....	do.....	7 21	6 41
Do.....	do.....	4th. do.....	do.....	6 26	5 56
Do.....	do.....	5th. do.....	do.....	4 89	4 35
Do.....	do.....	1st. do.....	Germany.....	5 67	5 04
Do.....	do.....	2d. do.....	do.....	2 84	2 52
Watch, fire yard hands, do.....	do.....	1st. do.....	Massachusetts.....	13 50	12 00
Do.....	do.....	2d. do.....	do.....	10 44	9 28
Do.....	do.....	3d. do.....	do.....	9 00	8 00
Do.....	do.....	4th. do.....	do.....	7 50	6 67
Firemen.....			do.....	11 22	9 97
Do.....		1st grade.....	England.....	5 72	5 08
Do.....		2d. do.....	do.....	5 16	4 59
Men.....		1st. do.....	do.....	6 81	6 05
Do.....		2d. do.....	do.....	5 45	4 84
Engineers.....		1st. do.....	do.....	9 80	8 71
Do.....		2d. do.....	do.....	9 53	8 47
Do.....		3d. do.....	do.....	5 45	4 84
Do.....		1st. do.....	Germany.....	4 46	3 96
Firemen.....		1st. do.....	do.....	3 24	2 88
Do.....		2d. do.....	do.....	2 70	2 40
Do.....			Prussia.....	4 86	4 32
Do.....		1st. do.....	Austria.....	4 28	3 80
Do.....		2d. do.....	do.....	4 05	3 60
Do.....		3d. do.....	do.....	2 48	2 20
General labor.....	men.....	1st. do.....	Massachusetts.....	10 02	8 91
Do.....	do.....	2d. do.....	do.....	9 00	8 00
Do.....	do.....	3d. do.....	do.....	7 50	6 67
Do.....	do.....	1st. do.....	England.....	6 54	5 81
Do.....	do.....	2d. do.....	do.....	4 89	4 35
Do.....	do.....	3d. do.....	do.....	4 35	3 87
<i>Not admitting of comparison.</i>					
Males in factories.....			Germany.....	4 55	4 04
Women.....	do.....		Prussia.....	3 94	3 50
Do.....	do.....		do.....	3 38	3 00
Children.....	do.....		do.....	2 25	2 00
Do.....	do.....		do.....	1 69	1 50
Operatives, do.....			Austria.....	3 92	3 48
Do.....	do.....		do.....	3 24	2 88
Do.....	do.....		do.....	1 10	98
Do.....	do.....		do.....	97	86
Men.....	do.....		Italy.....	3 85	3 42
Do.....	do.....		do.....	2 45	2 18
Women.....	do.....		do.....	1 92	1 71

## TABLE OF ARTICLES.

## AVERAGE PRICES FOR PENNSYLVANIA.

The following table of prices of articles are given, that those who desire so to do may compare them with those given in the following table. Except coal and rent, they are all made up from the statements of respectable dealers, and are intended to represent average retail prices for the years mentioned, over the State. Coal and rent are estimated upon the best data available.

ARTICLES.	Prices, 1872.	Measure ....	Quantity for \$1, 1872....	Prices, 1875.	Measure ....	Quantity for \$1, 1875....
Flour, wheat, superfine, \$ barrel.....	\$10 75	lbs.	18.25	\$6 25	lbs.	31.34
Beef, fresh roasting pieces, \$ lb.....	17	"	5.88	16	"	6.25
" soup pieces.....do.....	13	"	8.33	11	"	9.09
" rump steaks.....do.....	16	"	6.25	15	"	6.66
Veal, fore quarters.....do.....	9	"	11.11	9	"	11.11
Mutton, fore quarters.....do.....	14	"	7.14	14	"	7.14
" chops.....do.....	18	"	5.55	18	"	5.55
Pork, fresh.....do.....	12	"	8.33	15	"	6.66
" hams, smoked.....do.....	15	"	6.66	15	"	6.66
Lard.....do.....	14	"	7.14	16	"	6.25
Butter.....do.....	35	"	2.86	30	"	3.33
Cheese.....do.....	20	"	5.	22	"	4.55
Potatoes, old, \$ bushel.....	1 10	peck,	3.64	1 00	peck.	4.
Rice, \$ lb.....	10	lbs.	10.00	10	lbs.	10.
Milk, \$ quart.....	8	qts.	12.50	10	qts.	10.
Eggs, \$ dozen.....	30	doz.	.....	30	doz.	3.33
Tea, Oolong or good Black, \$ lb.....	1 25	lbs.	.80	90	lbs.	1.39
Coffee, Rio, roasted.....do.....	32	"	3.12	30	"	3.33
Soap, common.....do.....	8	"	12.50	8	"	12.50
Sugar, good brown.....do.....	10	"	10.	10	"	10.
Starch.....do.....	11	"	9.09	11	"	9.09
Fuel, coal, anthracite \$ ton, Philadel'a..	6 50	bush.	3.85	6 00	bush.	4.17
" do.....do... Harrisburg,	5 50	"	4.54	5 00	"	5.
" do.....do... Coalregions,	2 00	"	8.33	2 75	"	9.09
" coal, bit'us \$ ton, avg. where used,	2 75	"	9.09	2 50	"	10.
Shirtings, brown 4-4, \$ yard.....	14 <sup>1</sup> / <sub>2</sub>	yds.	6.89	10	yds.	10.
" brown 9-8...do.....	17	"	5.71	11 <sup>1</sup> / <sub>2</sub>	"	6.89
Prints, Merimac or common, \$ yard.....	11 <sup>1</sup> / <sub>2</sub>	"	6.89	9 <sup>1</sup> / <sub>2</sub>	"	10.50
Boots, men's heavy, \$ pair.....	5 00	pairs.	.20	4 50	pairs.	.22
Rent, four rooms, tenements, \$ month,						
in towns.....	10 00	days.	3.	9 00	days.	3.33
" four rooms, tenements, \$ month,						
in country.....	5 00	"	6.	4 50	"	6.66
" six rooms, tenements, \$ month, in						
towns.....	13 00	"	2.31	12 00	"	2.50
" six rooms, tenements, \$ month, in						
country.....	9 00	"	3.83	8 00	"	3.75
Board, for workmen, \$ week.....	5 00	"	1.40	4 00	"	1.75
" women in factories, \$ week..	3 00	"	2.33	2 50	"	2.80



## TABLE OF PRICES OF ARTICLES.

[From Massachusetts Report.]

TABLE II.—GROUP 1—FLOUR (WHEAT, SUPERFINE.)

LOCATION.	No. of pounds for one dollar,	LOCATION.	No. of pounds for one dollar,
Boston .....	Mass..... 20.83	Aix-la-Chapelle .....	Prussia .... 17.39
Towns in.....	do ..... 16.34	Dusseldorf.....	do ..... 16.39
Manchester.....	England... 22.22	Elberfeld.....	do ..... 24.39
Birmingham .....	do ..... 20.41	Barmen.....	do ..... 17.37
Sheffield.....	do ..... 22.22	Dantzic.....	do ..... 17.24
Bradford .....	do ..... 18.86	Frankfort-on-the-Main.....	13.51
Huddersfield.....	do ..... 21.74	Trieste.....	Austria .... 14.71
Halifax.....	do ..... 21.74	Charleroi.....	Belgium .... 21.28
Leeds.....	do ..... 20.83	Copenhagen .....	Denmark... 23.47
Newcastle-on-Tyne.....	do ..... 21.74	Elsinore .....	do ..... 22.72
Sunderland.....	do ..... 20.41	Chaux-de-Fonds.....	Switzerl'd.. 17.86
Leith.....	Scotland... 22.73	Basle.....	do ..... 17.42
Portland.....	Ireland... 19.23	Zurich.....	do ..... 12.66
Pontypool.....	Wales ..... 19.60	Palermo.....	Italy ..... 8.89
Cardiff.....	do ..... 19.60	Nice.....	France ..... 14.49
Stuttgart.....	Wirtemb'g 20	Lyons.....	do ..... 20.41
Munich.....	Bavaria... 14.28	Marseilles.....	do ..... 11.11
Berlin.....	Prussia... 19.21	Odessa .....	Russia... 20.41
Cologne.....	do ..... 16.95	Tunis.....	Africa..... 21.74

## GROUP 2—BEEF, (FRESH, ROASTING PIECE.)

Boston .....	Mass..... 5.56	Huddersfield .....	England... 4.44
Towns in.....	do ..... 5.	Leeds.....	do ..... 4.44
Manchester.....	England... 4.04	Newcastle-on-Tyne .....	do ..... 4.26
Birmingham .....	do ..... 4.26	Sunderland.....	do ..... 4.26
Sheffield.....	do ..... 4.44	Dundee.....	Scotland... 4.21
Bradford .....	do ..... 3.88	Leith.....	do ..... 3.88
Portlow.....	Ireland... 4.94	Vienna.....	Austria .... 4.55
Londonderry .....	do ..... 4.44	Antwerp.....	Belgium .... 4.83
Pontypool.....	Wales ..... 4.44	Charleroi.....	do ..... 4.94
Cardiff.....	do ..... 4.44	Copenhagen .....	Denmark... 7.55
Chemnitz .....	Saxony... 6.35	Elsinore .....	do ..... 8.89
Dresden .....	do ..... 6.90	Chaux-de-Fonds.....	Switzerl'd. 4.94
Stuttgart.....	Wirtemb'g 5.26	Basle.....	do ..... 6.56
Munich.....	Bavaria... 5.26	Zurich.....	do ..... 4.94
Berlin.....	Prussia... 5.41	Palermo.....	Italy ..... 2.96
Aix-la-Chapelle.....	do ..... 5.13	Messina.....	do ..... 3.28
Dusseldorf .....	do ..... 4.70	Nice.....	France ..... 4.65
Elberfeld.....	do ..... 3.70	Lyons.....	do ..... 9.76
Barmen.....	do ..... 5.56	Marseilles.....	do ..... 4.94
Dantzic.....	do ..... 5.97	Odessa .....	Russia... 8.89
Frankfort-on-the-Main.....	5.56	Tunis.....	Africa..... 6.35
Trieste.....	Austria... 3.17		

## GROUP 3.—BEEF, (SOUP PIECES.)

Boston .....	Mass..... 14.29	Aix-la-Chapelle.....	Prussia .... 5.13
Towns in.....	do ..... 12.50	Dusseldorf.....	do ..... 6.35
Manchester.....	England... 8.89	Elberfeld.....	do ..... 5.26
Birmingham .....	do ..... 7.41	Barmen.....	do ..... 5.56
Sheffield.....	do ..... 5.56	Dantzic.....	do ..... 7.41
Bradford .....	do ..... 5.26	Frankfort-on-the-Main .....	5.56
Huddersfield.....	do ..... 8.16	Trieste.....	Austria .... 4.04
Newcastle-on-Tyne .....	do ..... 4.94	Vienna.....	do ..... 4.82
Sunderland.....	do ..... 5.26	Antwerp.....	Belgium .... 5.56
Dundee .....	Scotland... 4.94	Charleroi.....	do ..... 4.94
Leith.....	do ..... 4.70	Copenhagen .....	Denmark... 9.52
Portlaw.....	Ireland... 6.35	Elsinore .....	do ..... 10.81
Londonderry .....	do ..... 6.35	Chaux-de-Fonds.....	Switzerl'd.. 4.94
Pontypool.....	Wales ..... 5.56	Zurich.....	do ..... 4.94

## TABLE OF PRICES OF ARTICLES.

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GROUP 3.—BEEF, (SOUP PIECES)—*Continued.*

LOCATIONS.	No. of pounds for one dollar,	LOCATIONS.	No. of pounds for one dollar,
Cardiff.....do.....	5.56	Palermo.....Italy.....	3.57
Chemnitz.....Saxony....	6.67	Messina.....do.....	4.94
Dresden.....do.....	8.89	Nice.....France.....	4.65
Stuttgard.....Wirtemb'g,	6.15	Marseilles.....do.....	5.56
Munich.....Bavaria....	7.41	Odessa.....Russia.....	12.90
Berlin.....Prussia....	6.90	Tunis.....Africa.....	6.35

## GROUP 4.—BEEF, (RUMP STEAKS.)

Boston.....Mass.....	3.67	Leeds.....England....	2.96
Towns in.....do.....	3.12	Newcastle-on-Tyne.....do.....	4.04
Manchester.....England..	3.70	Sunderland.....do.....	3.70
Birmingham.....do.....	3.41	Dundee.....Scotland...	2.96
Sheffield.....do.....	3.17	Leith.....do.....	2.96
Bradford.....do.....	3.17	Portlaw.....Ireland....	4.70
Huddersfield.....do.....	3.41	Londonderry.....do.....	3.70
Pontypool.....Wales....	4.04	Vienna.....Austria....	4.44
Cardiff.....do.....	4.04	Antwerp.....Belgium...	4.82
Chemnitz.....Saxony....	5.88	Charleroi.....do.....	4.94
Dresden.....do.....	5.26	Copenhagen.....Denmark..	7.41
Stuttgard.....Wirtemb'g	5.97	Chaux-de-Fonds.....Switzerl'd.	4.94
Munich.....Bavaria....	6.90	Basle.....do.....	7.14
Berlin.....Prussia....	3.88	Zurich.....Italy.....	4.94
Aix-la-Chapelle.....do.....	4.08	Palermo.....do.....	2.96
Dusseldorf.....do.....	2.96	Messina.....France....	3.28
Elberfeld.....do.....	2.88	Nice.....do.....	4.44
Barmen.....do.....	4.94	Marseilles.....Russia....	4.21
Dantzic.....do.....	4.65	Odessa.....Russia....	8.89
Frankfort-on-the-Main.....	4.21	Tunis.....Africa.....	6.35
Trieste.....Austria....	3.67		

## GROUP 5.—VEAL. (FOREQUARTERS.)

Boston.....Mass.....	10.81	Dusseldorf.....Prussia....	6.90
Towns in.....do.....	8.70	Elberfeld.....do.....	5.56
Manchester.....England..	5.26	Barmen.....do.....	5.97
Birmingham.....do.....	5.56	Dantzic.....do.....	6.56
Sheffield.....do.....	4.94	Frankfort-on-the-Main.....	5.41
Bradford.....do.....	5.26	Trieste.....Austria....	3.17
Huddersfield.....do.....	5.56	Vienna.....do.....	3.96
Halifax.....do.....	4.26	Antwerp.....Belgium...	5.97
Newcastle-on-Tyne.....do.....	4.94	Charleroi.....do.....	4.94
Sunderland.....do.....	4.44	Copenhagen.....Denmark..	8.51
Dundee.....Scotland...	5.56	Elsinore.....do.....	13.79
Leith.....do.....	4.94	Chaux-de-Fonds.....Switzerl'd..	5.56
Pontypool.....Wales....	4.94	Basle.....do.....	5.71
Cardiff.....do.....	4.94	Zurich.....do.....	4.26
Chemnitz.....Saxony....	8.89	Palermo.....Italy.....	3.57
Dresden.....do.....	8.51	Messina.....do.....	3.30
Stuttgard.....Wirtemb'g	6.15	Nice.....France....	4.65
Munich.....Bavaria....	8.16	Lyons.....do.....	9.76
Berlin.....Prussia....	7.14	Marseilles.....do.....	3.70
Cologne.....do.....	5.56	Odessa.....Russia....	11.11
Aix-la-Chapelle.....do.....	5.63	Tunis.....Africa.....	6.35

## TABLE OF PRICES OF ARTICLES.

## GROUP 6—MUTTON (FOREQUARTERS.)

LOCATIONS.	No. of pounds for one dollar,	LOCATIONS,	No. of pounds for one dollar,
Boston.....Mass.....	12.50	Leeds.....England...	4.94
Towns in.....do.....	8.	Newcastle-on-Tyne.....do.....	5.56
Manchester.....England...	4.94	Sunderland.....do.....	4.70
Birmingham.....do.....	5.56	Dundee.....Scotland...	4.44
Sheffield.....do.....	5.56	Leith.....do.....	5.56
Bradford.....do.....	4.94	Portlaw.....Ireland...	5.26
Huddersfield.....do.....	5.56	Londonderry.....do.....	4.44
Pontypool.....Wales.....	4.94	Vienna.....Austria...	6.25
Cardiff.....do.....	4.94	Antwerp.....Belgium...	5.26
Chemnitz.....Saxony.....	7.41	Charleroi.....do.....	3.70
Dresden.....do.....	5.41	Copenhagen.....Denmark..	8.51
Stuttgart.....Wirtemb'g...	7.41	Elsinore.....do.....	8.89
Munich.....Bavaria.....	8.89	Chaux-de-Fonds.....Switzerl'd..	4.94
Berlin.....Prussia.....	7.41	Basle.....do.....	6.15
Cologne.....do.....	5.56	Zurich.....do.....	6.35
Aix-la-Chapelle.....do.....	5.13	Palermo.....Italy.....	4.44
Dusseldorf.....do.....	4.70	Nice.....France.....	4.65
Elberfeld.....do.....	4.70	Lyons.....do.....	9.76
Barmen.....do.....	5.97	Marseilles.....do.....	4.04
Dantzic.....do.....	7.41	Odessa.....Russia.....	12.90
Frankfort-on-the-main.....	4.94	Tunis.....Africa.....	8.89
Trieste.....Austria.....	7.41		

## GROUP 7—MUTTON (CHOPS)

Boston.....Mass.....	7.14	Dusseldorf.....Prussia....	4.65
Towns in.....do.....	6.06	Elberfeld.....do.....	4.65
Manchester.....England...	3.70	Barmen.....do.....	5.88
Birmingham.....do.....	3.70	Dantzic.....do.....	6.35
Sheffield.....do.....	4.26	Frankfort-on-the-Main.....	3.70
Bradford.....do.....	3.70	Trieste.....Austria....	6.35
Huddersfield.....do.....	3.70	Vienna.....do.....	4.30
Leeds.....do.....	4.44	Antwerp.....Belgium...	5.56
Newcastle-on-Tyne.....England...	4.04	Charleroi.....Belgium...	3.70
Sunderland.....do.....	3.70	Copenhagen.....Denmark..	7.41
Dundee.....Scotland...	4.44	Elsinore.....do.....	7.02
Leith.....do.....	3.70	Chaux-de-Fonds.....Switzerl'nd	4.94
Portlaw.....Ireland...	4.94	Basle.....do.....	6.15
Londonderry.....do.....	3.70	Zurich.....do.....	6.35
Pontypool.....Wales.....	4.04	Palermo.....Italy.....	4.44
Cardiff.....do.....	4.44	Nice.....France.....	3.70
Chemnitz.....Saxony.....	6.35	Lyons.....do.....	7.14
Dresden.....do.....	7.41	Marseilles.....do.....	4.04
Munich.....Bavaria.....	8.89	Odessa.....Russia.....	8.89
Berlin.....Prussia.....	5.80	Tunis.....Africa.....	6.35
Cologne.....do.....	4.70		

## GROUP 8.—PORK (FRESH.)

Boston.....Mass.....	8.70	Newcastle-on-Tyne.....England...	5.56
Towns in.....do.....	7.41	Sunderland.....do.....	4.94
Manchester.....England...	5.56	Dundee.....Scotland...	5.56
Birmingham.....do.....	5.56	Leith.....do.....	5.56
Sheffield.....do.....	4.94	Portlaw.....Ireland...	6.90
Bradford.....do.....	5.56	Pontypool.....Wales...	5.26
Huddersfield.....do.....	5.56	Cardiff.....do.....	4.94
Chemnitz.....Saxony.....	5.97	Vienna.....Austria....	4.04
Dressden.....do.....	5.97	Antwerp.....Belgium...	4.82



## TABLE OF PRICES OF ARTICLES.

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## GROUP 8—Continued.

LOCATIONS.	No. of pounds for one dollar,	LOCATIONS.	No. of pounds for one dollar,
Stuttgard . . . . . Wirtemb'g	5.71	Charleroi . . . . . Belgium	5.06
Munich . . . . . Bavaria	5.13	Copenhagen . . . . . Denmark	11.11
Berlin . . . . . Prussia	6.15	Elsinore . . . . . do	10.
Cologne . . . . . do	4.17	Chaux-de-Fonds . . . . . Switzerl'd.	4.04
Aix-la-Chapelle . . . . . do	4.40	Basle . . . . . do	6.15
Dusseldorf . . . . . do	4.70	Zurich . . . . . do	5.26
Elberfeld . . . . . do	4.65	Palermo . . . . . Italy	4.44
Barmen . . . . . do	4.44	Nice . . . . . France	4.65
Dantzic . . . . . do	7.41	Lyons . . . . . do	9.76
Frankfort-on-the-Main . . . . .	5.56	Marseilles . . . . . do	4.70
Trieste . . . . . Austria	4.44	Odessa . . . . . Russia	8.89

## GROUP 9—PORK, (HAMS, SMOKED.)

Boston . . . . . Mass	7.69	Cologne . . . . . Prussia	2.70
Townsin . . . . . do	7.14	Aix-la-Chapelle . . . . . do	3.23
Manchester . . . . . England	3.17	Dusseldorf . . . . . do	3.88
Birmingham . . . . . do	3.70	Elberfeld . . . . . do	3.07
Sheffield . . . . . do	4.44	Barmen . . . . . do	3.70
Bradford . . . . . do	4.04	Dantzic . . . . . do	3.17
Huddersfield . . . . . do	3.70	Frankfort-on-the-Main . . . . .	3.70
Leeds . . . . . do	4.04	Trieste . . . . . Austria	1.76
Newcastle-on-Tyne . . . . . do	3.70	Antwerp . . . . . Belgium	3.57
Sunderland . . . . . do	3.88	Charleroi . . . . . do	2.34
Dundee . . . . . Scotland	3.41	Copenhagen . . . . . Denmark	6.45
Leith . . . . . do	3.17	Elsinore . . . . . do	5.97
Portlaw . . . . . Ireland	3.41	Chaux-de-Fonds . . . . . Switzerl'd.	3.57
Londonderry . . . . . do	3.70	Zurich . . . . . do	3.17
Cardiff . . . . . Wales	5.26	Palermo . . . . . Italy	2.55
Chemnitz . . . . . Saxony	4.44	Messina . . . . . do	2.96
Dresden . . . . . do	4.70	Nice . . . . . France	2.96
Stuttgard . . . . . Wirtemb'g	1.85	Lyons . . . . . do	4.94
Munich . . . . . Bavaria	2.77	Marseilles . . . . . do	1.76
Berlin . . . . . Prussia	4.35	Odessa . . . . . Russia	5.97

## GROUP 10—LARD.

Boston . . . . . Mass	8.33	Sunderland . . . . . England	4.44
Townsin . . . . . do	7.55	Dundee . . . . . Scotland	5.56
Manchester . . . . . England	6.67	Leith . . . . . do	4.44
Birmingham . . . . . do	5.56	Portlaw . . . . . Ireland	7.41
Sheffield . . . . . do	4.94	Londonderry . . . . . do	4.44
Bradford . . . . . do	5.26	Pontypool . . . . . Wales	5.56
Huddersfield . . . . . do	5.56	Cardiff . . . . . do	4.44
Halifax . . . . . do	7.41	Chemnitz . . . . . Saxony	4.08
Leeds . . . . . do	5.26	Dresden . . . . . do	6.90
Newcastle-on-Tyne . . . . . do	4.44	Stuttgard . . . . . Wirtemb'g	4.94
Munich . . . . . Bavaria	3.70	Chaleroi . . . . . Belgium	4.65
Berlin . . . . . Prussia	4.70	Copenhagen . . . . . Denmark	6.90
Cologne . . . . . do	4.26	Elsinore . . . . . do	4.94
Aix-la-Capelle . . . . . do	3.88	Chaux-de-Fonds . . . . . Switzerl'd.	3.17
Dusseldorf . . . . . do	4.26	Basle . . . . . do	6.56
Elberfeld . . . . . do	4.44	Zurick . . . . . do	5.56
Barmen . . . . . do	4.21	Palermo . . . . . Italy	2.22
Dantzic . . . . . do	4.26	Nice . . . . . France	4.65
Frankfort-on-the-Main . . . . .	4.94	Lyons . . . . . do	8.89
Trieste . . . . . Austria	3.70	Marseilles . . . . . do	3.57
Vienna . . . . . do	3.67	Odessa . . . . . Russia	5.26
Antwerp . . . . . Belgium	4.44		

## TABLE OF PRICES OF ARTICLES.

## GROUP 11—BUTTER.

LOCATIONS.	No. of pounds for one dollar,	LOCATIONS.	No. of pounds for one dollar,
Boston.....Mass.	2.59	Cologne.....Prussia	2.96
Towns in.....do	2.50	Aix-la-Chapelle.....do	3.77
Manchester.....England	3.41	Dusseldorf.....do	2.96
Birmingham.....do	3.17	Elberfeld.....do	3.70
Sheffield.....do	3.70	Barmen.....do	2.47
Bradford.....do	3.17	Dantzic.....do	2.92
Huddersfield.....do	2.96	Frankfort-on-the-Main.....do	2.53
Halifax.....do	3.17	Trieste.....Austria	2.34
Leeds.....do	2.77	Antwerp.....Belgium	2.74
Newcastle-on-Tyne.....do	3.17	Charleroi.....do	2.61
Sunderland.....do	3.33	Copenhagen.....Denmark	3.81
Dundee.....Scotland	2.96	Elsinore.....do	4.40
Leith.....do	3.17	Chaux-de-Fonds.....Switzerl'd.	3.05
Portlaw.....Ireland	3.70	Basle.....do	4.44
Londonderry.....do	3.70	Zurich.....do	2.96
Pontypool.....Wales	3.70	Palermo.....Italy	1.49
Cardiff.....do	3.17	Nice.....France	2.39
Dresden.....Saxony	3.30	Lyons.....do	2.96
Stuttgart.....Wirtemb'g	3.88	Marseilles.....do	3.17
Munich.....Bavaria	5.13	Odessa.....Russia	3.57
Berlin.....Prussia	3.28	Tunis.....Africa	1.76

## GROUP 12—CHEESE.

Boston.....Mass.	6.06	Sunderland.....England	4.94
Towns in.....do	5.41	Dundee.....Scotland	5.56
Manchester.....England	5.36	Leith.....do	4.44
Birmingham.....do	4.94	Portlaw.....Ireland	4.44
Sheffield.....do	5.26	Londonderry.....do	4.44
Bradford.....do	5.26	Pontypool.....Wales	5.56
Huddersfield.....do	5.56	Chemnitz.....Saxony	11.11
Halifax.....do	5.26	Dresden.....do	4.94
Leeds.....do	4.94	Stuttgart.....Wirtemb'g	16.67
Newcastle-on-Tyne.....do	4.94	Munich.....Bavaria	3.41
Berlin.....Prussia	19.04	Elsinore.....Denmark	10.81
Cologne.....do	9.52	Chaux-de-Fonds.....Switzerl'd.	4.65
Aix-la-Chapelle.....do	4.35	Basle.....do	5.71
Dusseldorf.....do	4.70	Zurich.....do	4.44
Elberfeld.....do	8.89	Palermo.....Italy	3.17
Barmen.....do	4.26	Messina.....do	2.77
Dantzic.....do	4.26	Nice.....France	2.96
Frankfort-on-the-Main.....do	4.04	Lyons.....do	3.57
Trieste.....Austria	2.07	Marseilles.....do	4.04
Antwerp.....Belgium	4.65	Odessa.....Russia	2.22
Charleroi.....do	3.88	Tunis.....Africa	2.41
Copenhagen.....Denmark	8.51		

## GROUP 13—POTATOES, (OLD.)

Boston.....Mass.	pecks.	Aix-la-Chapelle.....Prussia	pecks.
Towns in.....do	3.85	Elberfeld.....do	4.95
Manchester.....England	4.	Barmen.....do	7.72
Birmingham.....do	2.97	Dantzic.....do	5.97
Sheffield.....do	2.97	Frankfort-on-the-Main.....do	13.68
Bradford.....do	3.28	Triests.....Austria	7.14
Halifax.....do	3.70	Antwerp.....Belgium	3.57
Leeds.....do	2.97	Copenhagen.....Denmark	7.93
Sunderland.....do	2.97	Elsinore.....do	9.43
	5.26		11.85

## TABLE OF PRICES OF ARTICLES.

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## GROUP 13—Continued.

LOCATION.	No. of pecks for one dollar,	LOCATION.	No. of pecks for one dollar,		
Dundee . . . . .	Scotland . . .	1.83	Chaux-de-Fonds . . . . .	Switzerl'd..	7.11
Leith . . . . .	do . . . . .	3.05	Basle . . . . .	do . . . . .	3.70
Portlaw . . . . .	Ireland . . . .	6.89	Zurich . . . . .	do . . . . .	5.88
Londonderry . . . .	do . . . . .	8.29	Palermo . . . . .	Italy . . . . .	1.49
Cardiff . . . . .	Wales . . . . .	2.96	Nice . . . . .	France . . . .	1.49
Dresden . . . . .	Saxony . . . .	10.96	Lyons . . . . .	do . . . . .	13.12
Stuttgard . . . . .	Wirtemb'g, . .	5.56	Marseilles . . . . .	do . . . . .	5.88
Munich . . . . .	Bavaria . . . .	7.41	Odessa . . . . .	Russia . . . .	3.85
Berlin . . . . .	Prussia . . . .	6.25	Tunis . . . . .	Africa . . . .	2.86
Cologne . . . . .	do . . . . .	7.41			

## GROUP 14—RICE.

		lbs.			lbs.
Boston .....	Mass .....	9.52	Birmingham .....	England .....	14.81
Towns in .....	do .....	8.33	Sheffield .....	do .....	22.22
Manchester .....	England .....	14.81	Bradford .....	do .....	11.11
Huddersfield .....	do .....	14.81	Barmen .....	Prussia .....	14.81
Halifax .....	do .....	22.22	Dantzic .....	do .....	10.
Newcastle-on-Tyne .....	do .....	22.22	Frankfort-on-the-Main .....	do .....	10.53
Sunderland .....	do .....	11.11	Trieste .....	Austria .....	11.76
Dundee .....	Scotland .....	14.81	Antwerp .....	Belgium .....	19.04
Leith .....	do .....	19.04	Charleroi .....	do .....	12.90
Portlaw .....	Ireland .....	19.04	Copenhagen .....	Denmark .....	14.29
Pontypool .....	Wales .....	22.22	Elsinore .....	do .....	14.29
Cardiff .....	do .....	19.04	Chaux-de-Fonds .....	Switzerl'd .....	14.81
Chemnitz .....	Saxony .....	22.22	Basle .....	do .....	19.04
Dresden .....	do .....	14.81	Zurich .....	do .....	14.81
Stuttgart .....	Wirtemb'g .....	11.11	Palermo .....	Italy .....	8.89
Munich .....	Bavaria .....	11.11	Messina .....	do .....	12.90
Berlin .....	Prussia .....	6.90	Nice .....	France .....	12.90
Cologne .....	do .....	19.04	Lyons .....	do .....	12.90
Aix-la-Chapelle .....	do .....	20.	Marseilles .....	do .....	17.37
Dusseldorf .....	do .....	10.	Odessa .....	Russia .....	17.37
Elberfeld .....	do .....	19.04			

## GROUP 15—MILK.

		quarts.			quarts.
Boston	Mass	11.76	Aix-la-Chapelle	Prussia	20.
Towns in	do	13.33	Dusseldorf	do	19.04
Manchester	England	12.90	Elberfeld	do	28.57
Birmingham	do	14.81	Barmen	do	14.81
Sheffield	do	14.81	Dantzic	do	25.
Bradford	do	11.11	Frankfort-on-the-Main	do	22.22
Huddersfield	do	14.81	Trieste	Austria	11.11
Halifax	do	14.81	Antwerp	Belgium	28.57
Newcastle-on-Tyne	do	11.11	Charleroi	do	22.22
Sunderland	do	8.89	Copenhagen	Denmark	33.33
Dundee	Scotland	7.41	Elsinore	do	33.33
Leith	do	12.90	Chaux-de-Fonds	Switzerl'd	16.
Portlaw	Ireland	22.22	Basle	do	28.57
Londonderry	do	19.04	Zurich	do	30.77
Pontypool	Wales	22.22	Palermo	Italy	4.44
Cardiff	do	12.90	Messina	do	5.19
Chemnitz	Saxony	19.04	Nice	France	14.81
Dresden	do	19.04	Lyons	do	4.70
Stuttgart	Wirtemb'g	22.22	Marseilles	do	12.90
Munich	Bavaria	22.22	Odessa	Russia	8.89
Berlin	Prussia	25.	Tunis	Africa	14.81
Cologne	do	22.22			



## TABLE OF PRICES OF ARTICLES.

## GROUP 16—EGGS.

LOCATIONS.	No. of dozens for one dollar,	LOCATIONS.	No. of dozens for one dollar,
Boston.....Mass.....	3.33	Cologne.....Prussia....	6.67
Towns in.....do.....	3.33	Aix-la-Chapelle.....do.....	4.88
Manchester.....England....	3.88	Dusseldorf.....do.....	4.21
Birmingham.....do.....	4.44	Elberfeld.....do.....	4.70
Sheffield.....do.....	4.94	Barmen.....do.....	4.26
Bradford.....do.....	4.94	Dantzic.....do.....	8.89
Huddersfield.....do.....	4.04	Frankfort-on-the-Main.....	4.44
Leeds.....do.....	3.70	Trieste.....Austria....	6.56
Newcastle-on-Tyne.....do.....	4.04	Antwerp.....Belgium....	3.17
Sunderland.....do.....	3.17	Charleroi.....do.....	3.88
Dundee.....Scotland....	2.96	Copenhagen.....Denmark..	7.41
Leith.....do.....	3.17	Elsinor.....do.....	7.02
Portlaw.....Ireland....	4.94	Chaux-de-Fonds....Switzerl'd..	4.65
Londonderry.....do.....	3.70	Basle.....do.....	6.78
Pontypool.....Wales.....	4.44	Zurich.....do.....	4.44
Cardiff.....do.....	4.44	Palermo.....Italy.....	2.47
Chemnitz.....Saxony....	6.06	Nice.....France.....	4.94
Dresden.....do.....	6.90	Lyons.....do.....	3.70
Stuttgard.....Wirtemb'g...	5.56	Marseilles.....do.....	3.88
Munich.....Bavaria....	5.56	Odessa.....Russia....	7.41
Berlin.....Prussia....	7.14	Tunis.....Africa....	4.94

## GROUP 17—TEA, (OOLONG OR GOOD BLACK.)

	pounds		pounds
Boston.....Mass.....	1.59	Cologne.....Prussia....	1.23
Towns in.....do.....	1.33	Aix-la-Chapelle.....do.....	1.19
Manchester.....England....	1.23	Dusseldorf.....do.....	1.23
Birmingham.....do.....	1.49	Elberfeld.....do.....	1.03
Sheffield.....do.....	1.49	Barmen.....do.....	.82
Bradford.....do.....	1.49	Dantzic.....do.....	1.08
Huddersfield.....do.....	1.23	Frankfort-on-the-Main.....	1.01
Halifax.....do.....	1.49	Trieste.....Austria....	1.11
Leeds.....do.....	1.35	Antwerp.....Belgium....	1.06
Newcastle-on-Tyne.....do.....	1.23	Charleroi.....do.....	1.18
Sunderland.....do.....	1.06	Copenhagen.....Denmark..	1.89
Dundee.....Scotland....	1.35	Elsinore.....do.....	1.65
Leith.....do.....	1.49	Chaux-de-Fonds....Switzerl'd..	.89
Portlaw.....Ireland....	1.23	Basle.....do.....	.74
Londonderry.....do.....	1.06	Zurich.....do.....	.89
Pontypool.....Wales.....	1.49	Palermo.....Italy.....	.59
Cardiff.....do.....	1.23	Messina.....do.....	.74
Chemnitz.....Saxony....	.89	Nice.....France.....	.83
Dresden.....do.....	1.67	Lyons.....do.....	1.11
Stuttgard.....Wirtemb'g...	.72	Marseilles.....do.....	.88
Munich.....Bavaria....	1.11	Odessa.....Russia....	.88
Berlin.....Prussia....	.82	Tunis.....Africa....	.44

## GROUP 18—COFFEE, (RIO, ROASTED.)

Boston.....Mass.....	2.50	Cologne.....Prussia....	3.30
Towns in.....do.....	2.22	Aix-la-Chapelle.....do.....	2.77
Manchester.....England....	2.77	Dusseldorf.....do.....	2.70
Birmingham.....do.....	2.47	Elberfeld.....do.....	2.55
Sheffield.....do.....	2.77	Barmen.....do.....	2.34
Bradford.....do.....	2.47	Dantzic.....do.....	3.17
Huddersfield.....do.....	2.96	Frankfort-on-the-Main.....	2.53
Leeds.....do.....	2.77	Trieste.....Austria....	2.22
Newcastle-on-Tyne.....do.....	3.17	Antwerp.....Belgium....	2.77

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## GROUP 18—COFFEE, (RIO, ROASTED.)—Continued.

LOCATIONS.	No. of pounds for one dollar.	LOCATIONS.	No. of pounds for one dollar.
Sunderland.....England...	2.61	Charleroi.....Belgium...	3.28
Dundee.....Scotland...	2.47	Elsinore.....Denmark...	3.05
Leith.....do.....	2.77	Chaux-de-Fonds....Switzerl'd..	3.70
Portlaw.....Ireland....	2.22	Zurich.....do.....	2.96
Londonderry.....do.....	2.77	Palermo.....Italy.....	2.22
Pontypool.....Wales....	2.22	Messina.....do.....	2.00
Chemnitz.....Saxony....	2.77	Nice.....France....	1.76
Dresden.....do.....	3.17	Lyons.....do.....	3.17
Stuttgart.....Wiremb'g..	1.85	Marseilles.....do.....	1.76
Munich.....Bavaria....	2.88	Odessa.....Prussia...	2.96
Berlin.....Prussia....	2.77	Tunis.....Africa....	2.22

## GROUP 19—SUGAR, (GOOD BROWN.)

Boston.....Mass.....	10.53	Munich.....Bavaria....	11.11
Towns in.....do.....	9.09	Cologne.....Prussia....	6.35
Manchester.....England...	11.11	Aix-la-Chapelle....do.....	4.88
Birmingham.....do.....	11.11	Barmen.....do.....	5.56
Sheffield.....do.....	12.90	Dantzic.....do.....	8.00
Bradford.....do.....	10.00	Frankfort-on-the-Main..do.....	5.56
Huddersfield.....do.....	11.11	Trieste.....Austria....	7.41
Leeds.....do.....	12.90	Antwerp.....Belgium...	6.15
Newcastle-on-Tyne...do.....	12.90	Elsinore.....Denmark...	9.76
Sunderland.....do.....	11.11	Chaux-de-Fonds....Switzerl'd...do.....	8.16
Dundee.....Scotland...	11.76	Basle.....do.....	6.56
Leith.....do.....	10.00	Zurich.....do.....	6.35
Portlaw.....Ireland....	12.90	Palermo.....Italy.....	5.97
Londonderry.....do.....	12.90	Messina.....do.....	7.41
Pontypool.....Wales....	12.90	Nice.....France....	6.35
Cardiff.....do.....	11.11	Lyons.....do.....	4.44
Chemnitz.....Saxony....	8.16	Marseilles.....do.....	6.35
Dresden.....do.....	11.11	Odessa.....Russia....	10.00
Stuttgart.....Wittemb'g..	7.41	Tunis.....Africa....	4.70

## GROUP 20—SOAP, (COMMON.)

Boston.....Mass.....	14.29	Birmingham.....England...	14.81
Towns in.....do.....	11.11	Sheffield.....do.....	14.81
Manchester.....England...	12.90	Bradford.....do.....	12.90
Huddersfield.....do.....	11.11	Barmen.....Prussia....	12.90
Halifax.....do.....	12.90	Dantzic.....do.....	8.51
Leeds.....do.....	11.11	Frankfort-on-the-Main..do.....	8.89
Newcastle-on-Tyne...do.....	11.11	Trieste.....Austria....	10.
Sunderland.....do.....	11.11	Antwerp.....Belgium...	7.41
Dundee.....Scotland...	11.11	Charleroi.....do.....	22.22
Leith.....do.....	11.11	Copenhagen.....Denmark...	12.50
Portlaw.....Ireland....	12.90	Elsinore.....do.....	13.79
Londonderry.....do.....	14.81	Chaux-de-Fonds....Switzerl'd...do.....	9.76
Pontypool.....Wales....	14.81	Basle.....do.....	10.53
Cardiff.....do.....	12.90	Zurich.....do.....	12.90
Chemnitz.....Saxony....	12.12	Palermo.....Italy.....	10.
Dresden.....do.....	12.90	Messina.....do.....	8.16
Stuttgart.....Wirtemb'g..	8.89	Nice.....France....	5.56
Munich.....Bavaria....	8.89	Lyons.....do.....	22.22
Berlin.....Prussia....	7.14	Marseilles.....do.....	11.11
Aix-la-Chapelle....do.....	16.	Odessa.....Russia....	12.90
Dusseldorf.....do.....	14.81	Tunis.....Africa....	8.89
Elberfeld.....do.....	14.81		

## TABLE OF PRICES OF ARTICLES.

## GROUP 21—STARCH.

LOCATIONS.	No. of pounds for one dollar,	LOCATIONS.	No. of pounds for one dollar,
Boston.....Mass.....	10.	Aix-la-Chapelle.....Prussia....	8.
Towns in.....do.....	6.90	Dusseldorf.....do.....	6.35
Manchester.....England..	8.89	Elberfeld.....do.....	7.41
Birmingham.....do.....	8.89	Barmen.....do.....	7.41
Sheffield.....do.....	8.89	Dantzic.....do.....	6.35
Bradford.....do.....	6.35	Frankfort-on-the-Main.....	10.53
Huddersfield.....do.....	7.41	Trieste.....Austria.....	2.22
Newcastle-on-Tyne.....do.....	7.41	Charleroi.....Belgium....	8.89
Sunderland.....do.....	6.35	Copenhagen.....Denmark..	9.30
Dundee.....Scotland....	4.04	Elsinore.....do.....	6.56
Leith.....do.....	6.35	Chaux-de-Fonds.....Switzerl'd..	6.35
Portlaw.....Ireland....	14.81	Basle.....do.....	10.53
Londonderry.....do.....	10.	Zurich.....do.....	11.11
Pontypool.....Wales.....	8.89	Palermo.....Italy.....	5.97
Cardiff.....do.....	8.16	Messina.....do.....	6.78
Chemnitz.....Saxony....	13.79	Nice.....France.....	9.76
Dresden.....do.....	14.81	Lyons.....do.....	8.89
Stuttgard.....Wirtemb'g..	7.41	Marseilles.....do.....	10.
Munich.....Bavaria....	7.41	Odessa.....Russia.....	10.
Berlin.....Prussia....	8.89	Tunis.....Africa.....	7.41

## GROUP 22—FUEL, (COAL.)

	bushels		bushels
Boston.....Mass.....	3.54	Munich.....Bavaria....	4.10
Towns in.....do.....	2.39	Berlin.....Prussia....	3.56
Manchester.....England..	5.88	Aix-la-Chapelle.....do.....	3.86
Birmingham.....do.....	4.90	Dusseldorf.....do.....	5.26
Sheffield.....do.....	6.09	Dantzic.....do.....	3.23
Bradford.....do.....	5.26	Frankfort-on-the-Main.....	2.82
Huddersfield.....do.....	6.67	Trieste.....Austria.....	1.59
Leeds.....do.....	4.20	Antwerp.....Belgium....	2.56
Newcastle-on-Tyne.....do.....	3.52	Charleroi.....do.....	4.17
Sunderland.....do.....	5.56	Copenhagen.....Denmark..	2.94
Dundee.....Scotland....	3.52	Elsinore.....do.....	3.03
Leith.....do.....	3.52	Zurich.....Switzerl'd..	2.38
Portlaw.....Ireland....	2.94	Nice.....France.....	2.13
Londonderry.....do.....	3.21	Marseilles.....do.....	3.44
Cardiff.....Wales.....	3.14	Odessa.....Russia.....	1.75
Stuttgard.....Wirtemb'g..	2.44	Tunis.....Africa.....	.97

GROUP 23—SHIRTINGS, (BROWN,  $\frac{4}{4}$ )

	yards		yards
Boston.....Mass.....	7.69	Cologne.....Prussia....	13.79
Towns in.....do.....	7.69	Aix-la-Chapelle.....do.....	8.51
Manchester.....England..	6.67	Dusseldorf.....do.....	8.
Birmingham.....do.....	8.89	Elberfeld.....do.....	8.89
Sheffield.....do.....	8.89	Barmen.....do.....	6.90
Bradford.....do.....	6.35	Frankfort-on-the-Main.....	6.35
Huddersfield.....do.....	7.41	Trieste.....Austria.....	7.14
Newcastle-on-Tyne.....do.....	10.	Charleroi.....Belgium....	8.89
Sunderland.....do.....	8.89	Copenhagen.....Denmark..	7.41
Leith.....Scotland....	8.89	Elsinore.....do.....	4.94
Portlaw.....Ireland....	9.76	Chaux-de-Fonds.....Switzerl'd..	3.07
Londonderry.....do.....	8.16	Basle.....do.....	3.96
Pontypool.....Wales.....	8.16	Zurich.....do.....	3.70



## GROUP 23—Continued.

LOCATIONS.	No. of yards for one dollar...	LOCATIONS.	No. of yards for one dollar...
Cardiff.....Wales.....	8.16	Messina.....Italy.....	6.15
Dresden.....Saxony.....	12.90	Nice.....France.....	3.70
Stuttgart.....Wirtemb'g.....	8.89	Lyons.....do.....	8.89
Munich.....Bavaria.....	8.16	Marseilles.....do.....	5.97
Berlin.....Prussia.....	8.16	Odessa.....Russia.....	4.44

GROUP 24—SHEETINGS, (BROWN,  $\frac{3}{8}$ .)

Boston.....Mass.....	7.02	Bradford.....England...	3.51
Towns in.....do.....	7.02	Huddersfield.....do.....	6.35
Birmingham.....England...	6.35	Newcastle-on-Tyne.....do.....	4.94
Sheffield.....do.....	5.56	Sunderland.....do.....	5.97
Dundee.....Scotland...	7.41	Trieste.....Austria.....	8.
Leith.....do.....	2.96	Charleroi.....Belgium.....	6.90
Portlaw.....Ireland.....	8.	Copenhagen.....Denmark...	4.26
Londonderry.....do.....	1.85	Elsinore.....do.....	4.04
Pontypool.....Wales.....	3.17	Chaux-de-Fonds.....Switzerl'd..	3.17
Cardiff.....do.....	3.70	Basle.....do.....	2.96
Stuttgart.....Wirtemb'g.....	5.97	Zurich.....do.....	3.17
Munich.....Bavaria.....	5.56	Messina.....Italy.....	4.44
Cologne.....Prussia.....	6.90	Lyons.....France.....	6.90
Aix-la-Chapelle.....do.....	6.25	Marseilles.....do.....	3.57
Dantzic.....do.....	5.97	Odessa.....Russia.....	.99
Frankfort-on-the-Main.....	4.44		

## GROUP 25—PRINTS, (MERRIMAC, ON COMMON.)

Boston.....Mass.....	9.76	Cologne.....Prussia.....	9.52
Towns in.....do.....	8.	Aix-la-Chapelle.....do.....	6.15
Birmingham.....England...	6.90	Dusseldorf.....do.....	5.26
Bradford.....do.....	6.35	Elberfeld.....do.....	5.56
Huddersfield.....do.....	5.97	Barmen.....do.....	6.90
Newcastle-on-Tyne.....do.....	6.35	Dantzic.....do.....	8.51
Sunderland.....do.....	7.41	Antwerp.....Belgium.....	5.97
Dundee.....Scotland...	8.16	Chaux-de-Fonds.....Switzerl'd..	4.44
Leith.....do.....	6.35	Basle.....do.....	4.35
Pontypool.....Wales.....	5.97	Zurich.....do.....	4.04
Cardiff.....do.....	5.26	Messina.....Italy.....	5.56
Chemnitz.....Saxony.....	5.56	Nice.....France.....	4.26
Dresden.....do.....	8.89	Lyons.....do.....	5.97
Stuttgart.....Wirtemb'g.....	6.35	Marseilles.....do.....	3.41
Munich.....Bavaria.....	7.41	Odessa.....Russia.....	2.96

## GROUP 26—BOOTS, (MEN'S HEAVY.)

	pairs.		pairs.
Boston.....Mass.....	.363	Londonderry.....Ireland...	.490
Towns in.....do.....	.425	Pontypool.....Wales.....	.381
Manchester.....England...	.366	Cardiff.....do.....	.436
Birmingham.....do.....	.281	Chemnitz.....Saxony.....	.365
Sheffield.....do.....	.325	Dresden.....do.....	.309
Bradford.....do.....	.381	Stuttgart.....Wirtemb'g.....	.309
Huddersfield.....do.....	.354	Munich.....Bavaria.....	.450
Newcastle-on-Tyne.....do.....	.286	Berlin.....Prussia.....	.344
Sunderland.....do.....	.327	Cologne.....do.....	.387
Dundee.....Scotland...	.490	Aix-la-Chapelle.....do.....	.225
Leith.....do.....	.354	Dusseldorf.....do.....	.303



## TABLE OF PRICES OF ARTICLES.

## GROUP 26—Continued.

LOCATIONS.	No. of pairs for one dollar...	LOCATIONS.	No. of pairs for one dollar...
Portlaw.....Ireland.....	.245	Elberfeld.....Denmark..	.263
Barmen.....Prussia....	.405	Chaux-de-Fonds.....Switzerl'd..	.563
Dantzie.....do.....	.641	Zurich.....do.....	.900
Frankfort-on-the-Main.....	.428	Messina.....Italy.....	.321
Trieste.....Austria.....	.675	Nice.....France.....	.237
Charleroi.....Belgium....	.428	Lyons.....do.....	.450
Copenhagen.....Denmark..	.473	Marseilles.....do.....	.495
Elsinore.....do.....	.591	Odessa.....Russia.....	.563

## GROUP 27—RENT, (FOUR-ROOMED TENEMENTS.)

	days.		days.
Boston.....Mass.....	1.41	Dusseldorf.....Prussia....	3.13
Towns in.....do.....	3.79	Barmen.....do.....	5.
Manchester.....England..	5.29	Frankfort-on-the-Main.....	3.36
Birmingham.....do.....	6.17	Trieste.....Austria.....	23.40
Sheffield.....do.....	6.49	Antwerp.....Belgium....	3.37
Bradford.....do.....	5.	Charleroi.....do.....	2.86
Huddersfield.....do.....	7.46	Copenhagen.....Denmark..	3.03
Sunderland.....do.....	5.56	Elsinore.....do.....	7.29
Nottingham.....do.....	6.97	Chaux-de-Fonds.....Switzerl'd..	2.39
Dundee.....Scotland....	4.46	Basle.....do.....	4.48
Leith.....do.....	7.46	Zurich.....do.....	7.69
Portlaw.....Ireland....	14.00	Palermo.....Italy.....	6.49
Pontypool.....Wales.....	9.34	Messina.....do.....	5.26
Cardiff.....do.....	5.56	Nice.....France.....	10.
Dresden.....Saxony....	5.35	Lyons.....do.....	2.70
Stuttgard.....Wirtemb'g	2.	Marseilles.....do.....	5.40
Munich.....Bavaria....	.90	Odessa.....Russia.....	7.69
Berlin.....Prussia....	1.87	Tunis.....Africa.....	2.70
Cologne.....do.....	3.75		

## GROUP 28—RENT, (SIX-ROOMED TENEMENTS.)

Boston.....Mass.....	1.06	Cardiff.....Wales.....	3.85
Towns in.....do.....	2.25	Dresden.....Saxony....	3.75
Manchester.....England..	3.85	Stuttgard.....Wirtemb'g	1.19
Sheffield.....do.....	4.33	Munich.....Bavaria....	.68
Bradford.....do.....	3.70	Berlin.....Prussia....	1.50
Birmingham.....do.....	3.50	Cologne.....do.....	2.50
Huddersfield.....do.....	5.56	Dusseldorf.....do.....	1.87
Leeds.....do.....	6.49	Barmen.....do.....	2.56
Sunderland.....do.....	2.78	Frankfort-on-the-Main.....	2.70
Dundee.....Scotland....	3.70	Trieste.....Austria.....	14.28
Leith.....do.....	4.76	Antwerp.....Belgium....	1.19
Portlaw.....Ireland....	11.11	Charleroi.....do.....	1.89
Pontypool.....Wales.....	6.21	Copenhagen.....Denmark..	1.25
Chaux-de-Fonds.....Switzerl'd..	2.04	Nice.....France.....	7.52
Basle.....do.....	2.45	Lyons.....do.....	1.79
Zurich.....do.....	3.85	Marseilles.....do.....	3.85
Palermo.....Italy.....	4.35	Odessa.....Russia.....	.54
Messina.....do.....	4.03	Tunis.....Africa.....	2.25





